THE

DUBLIN QUARTERLY JOURNAL

OF

MEDICAL SCIENCE.

MAY 1, 1868.

PART I.

ORIGINAL COMMUNICATIONS.

ART. IX.—*Reports in Operative Surgery—Remarkable Cases of Gunshot Wounds.* By RICHARD G. BUTCHER, M.R.I.A.; Honorary M.D. of the University of Dublin; Lecturer on Practical and Operative Surgery in Sir Patrick Dun's Hospital; one of the Examiners on Surgery in the University of Dublin; Ex-President of the Royal College of Surgeons in Ireland; Fellow, Licentiate, and Member of Council of that Body; late Senior Surgeon to Mercer's Hospital; and Lecturer on Clinical Surgery, &c.

I HAVE great pleasure in laying before the profession the following cases of gunshot wounds. They will, I consider, be found replete with interest to the physiologist, as well as to the practical surgeon, be he civil or military. I need not say with what anxious solicitude the lives of these two men, the subjects of these remarks, were watched over by a sympathizing and deep-feeling people. The repeated inquiries at Mercer's Hospital, early and late, by rich and poor, without distinction of creed, bears ample testimony to the unusual anxiety elicited in their behalf; from the manner in which their death-wounds were inflicted by the assassin, while in the

discharge of their trying and onerous duties as public officers. Though appealed to frequently to place on record the history of these remarkable cases, yet I declined to accede to the request, or to do so prior to, and while pending, the trial of a man suspected of the offence, but which case has now been adjudicated upon. From this cause alone I refrained from making any observations on the cases, knowing well the clemency of the Crown, sanctioned by justice, has ever been, as now, to favour mercy. The first case is remarkable from the terrible severity of the symptoms, and the rarity of injury to vital parts here struck, viz., the splitting of the right semilunar ganglion of the sympathetic system, and the breaking up of the solar plexus of nerves, together with the opening of the side of the inferior vena cava, the profuse escape of blood from it, and yet the hemorrhage arrested—life being preserved for many days—a week—by judicious management. The second case affords a fine illustration of the power which practical surgery possesses in saving life.

CASE I.—*Gunshot Wound about Three Inches below the Ensiform Cartilage; the Right Crus of the Diaphragm and Semilunar Ganglion of the Sympathetic Split by the Ball, and the Solar Plexus of Nerves broken up; the Side of the Inferior Vena Cava being opened, with a profuse escape of Blood, yet Life preserved for many Days—a Week. Post Mortem Examination revealing the Locality of the Ball.*

Police constable Patrick Kenna, aged twenty-eight years, was admitted to Mercer's Hospital under my care, October 31st, 1867, at a quarter past one o'clock, after being shot whilst on duty. The man believing that he was dying immediately after coming into the hospital, made the following depositions to a magistrate, and which tells his history as follows:—

"I, Patrick Kenna, Police Constable of the Dublin Police, believing myself to be in immediate danger of death, make this my dying declaration as to the cause of the condition in which I am now in—that about a quarter to one o'clock this morning I was standing at the corner of Essex-quay, near Mason's shop, when I saw a man at the opposite side, near the bridge, and as he seemed desirous to avoid me he attracted my attention; he passed across to the flagway of Wellington-quay; he had a whitish-coloured bundle under his arm; I called after him to wait, and he said, 'I won't,' and I followed quickly after him, and when about Duffy's

shop I overtook him I said, 'I will make you wait,' when he turned round, and when about a yard from me he presented a pistol and shot me in the belly; I wheeled back towards the bridge, and shouted and met a constable named John Hickey, who put me on a car and brought me here. Delivered at Mercer's Hospital, the 31st October, 1867.—Patrick Kenna."

"The above dying declaration was made in my presence at four o'clock, a.m., at Mercer's Hospital, on the day above stated.—C. J. O'Donnell, J.P."

On admission the patient was a pitiable spectacle—pale, haggard, wild looking; pale as death; greatly excited; tossing his hands and arms about, and screaming if it was possible he could recover. The body was cold; pulse feeble; and I never will forget the bewildered look of despair in which he implored to be rescued from pain—from the burning agony with which he writhed. On stripping the man, I found a small transverse wound about three inches below the extremity of the ensiform cartilage, exactly in the middle line. The wound was said to have been inflicted by a pistol ball, yet it had the exact appearance as if made by a worn shoemaker's knife; after such an instrument I have often seen similar wounds, and very like. The inversion of the edges was scarcely appreciable, it being so very minute; there was no laceration of the edges, or the least trace of discolouration; as I have said before, it resembled an incised wound. It was about three-quarters of an inch in length, and its long axis strictly transverse. There was no blood trickling from it; a few drops had stained his shirt; but all had ceased at this time. I cleaned the wound and parts around with a damp warm sponge, and there was, even then, no more weeping from it. As the poor fellow lay in the horizontal position in bed, stripped, I passed my hand gently over the region of the wound, and examined carefully all around the loins and back, to discover if possible the course of the bullet, but all in vain, and there was not a scratch upon his body but the one small sharp cut. It was a terrible thing to behold this strong man stretched there, screaming in agony, with this death-wound, inflicted only a few minutes before. Of course the idea of probing the wound was never entertained for a second, or any meddlesome interference. Suddenly the creature would jump up in the bed; again assume the sitting posture in it, with his legs drawn up, and his head drooping forward over his knees. During these writhings he

pressed away every one who approached, and would not suffer restraint. Heated jars were applied along the limbs and to the feet, and he was propped up by a bed chair after a little time, and warm stimulants and sedatives given. So low did his pulse at this time fall that quick repetition of stimulants was essential to sustain the heart's action; brandy and opium every two hours; a few grains of calomel were placed upon his tongue.

November 1st, 9 a.m.—Found the patient somewhat quieter as to pain, but vomited frequently dark green matter; pulse very feeble, yet soft; the same wretched anxious countenance, and a constant craving to cool his throat, and the "rasping feel" in it; he dozes for a few seconds, still every two or three minutes starts up alarmed, and asking if possible "to save his life;" slight pain referred to the lower part of the belly; but none to the wound or its locality; the wound looks just as on his admission—a mere transverse slit, apparently with no irritation or even life about it; bladder full; drew off with silver catheter fully a pint of naturally coloured urine, with, as he said, relief of the uneasiness in the pubic region; however, ordered—from the wound downwards and laterally to either iliac region—the belly to be stuped with flannels wrung out of boiling water, and sprinkled freely with laudanum; ordered a grain of calomel and a grain of powdered opium every second hour, and one ounce of brandy and twenty drops of laudanum every second hour; cold chicken jelly and beef-tea jelly in spoonfuls occasionally; hot jars to the feet. 12 a.m.—Quieter then in the morning; pulse fuller and steadier; heat of body very low; anxious expression of countenance as at first, and general restlessness persistent to gain a "better position;" however he is alive; to continue the stimulants; smeared over the lower part of the belly with mercurial ointment, over which the laudanum stupes to be continued. 3 p.m.—Stomach ever irritable and vomiting; ordered two drops of medicinal hydrocyanic acid to each dose of brandy and laudanum every second hour. 8 p.m.—Still in same restless watchful state; starting up rashly and suddenly, sometimes even with a scream from sudden pain deep beneath the wound; to continue everything. 11 p.m.—Somewhat quieter than at last visit; remains recumbent, and under control; pain abated. To continue medicines, stimulants, stupes, &c., all through the night; bladder again relieved of a pint of water; states himself voluntary that he knows he could make water, but the fear of hurting his belly prevents his attempting to do so; he has full power in the lower

extremities, both in sensation and motion, as evident by his occasionally starting out of bed, and walking a few steps before being controlled, without unnecessary violence.

November 2nd, 9 a.m.—Has had but little sleep; the same anxious watchful eye; pulse now up to 98, but no force or strength in it; the man is quieter, and not suffering such acute pain; vomiting occasionally, but above all things complains of the "tearing in his throat;" jactitation; the arms frequently thrown across the chest; and seeking for aid to the "internal feeling," deep in, that he cannot describe, except as "tearing him." This same terrible feel extends up the entire throat; urine passed this morning in full quantity by his own efforts, proving at once no nervous lesion of the spine. In addition to the plans laid down, stimulants, mercury, stupes, &c., added iced champagne when he wished for it, and a drop or two of hydrocyanic acid in it, according to time; pieces of ice to be placed constantly in his mouth to assuage the parched feel; and nutriment in the same concentrated nutritious forms to be frequently given. 12 a.m.—Heat of body now at its natural temperature, and the circulation established throughout thoroughly, but not in deranged inflammatory impetus. To continue everything as ordered in the morning. Visited at 3, 8, and 11 p.m.—No marked change.

Nov. 3rd.—Condition much as on yesterday; the most distressing vomiting, somewhat mitigated by the application of a dozen leeches a little above the wound; slight tenderness in this region having called for their adoption, and the pulse, by its character, not contra-indicating this local abstraction of blood; the same wretched excited look, and emaciated pinched features. In the after part of the day he seemed quieter, and had some sleep. The cannabis indica in conjunction with the opium was freely exhibited throughout the day, and evidently towards night had produced more composure. The calomel and opium was steadily administered, and also the opiate stupes and mercurial inunction over the abdomen. Stimulants—brandy in iced water, champagne iced, meat jellies cold. Visited five times, and apportioning means according to symptoms.

Nov. 4th.—Has had short sleeps through the night, occasionally waking with a scream from pain referred to deep in the wound; vomiting at short intervals; took, however, all his medicines; stimulants, &c., at regular periods; pulse 110, very soft and feeble. 3 p.m.—He has the same restless stare and wild look which he has

had since his admission, with frequent vomiting of small quantities of yellowish watery fluid. To this colour it has now changed from dark green, and even black, sometimes harassed with the most violent straining, without ejection of any fluid, and, as the creature describes it himself, as an effort to get rid of the "gnawing and tearing" in his throat the entire way down. When this sensation was fully upon him, I have seen him to grip the throat, and, as he expressed himself when the paroxysm was passed, "he could tear out the piece;" jactitation frequent and prolonged. I applied bladders of ice along the spine and over the wound, and the regions in its vicinity, with some apparent relief; urine passed in full quantity, and by the natural efforts; bowels moved freely by the small doses of the submuriate, dark fetid stools in large quantity. The foregoing was his condition from morning to night, during which time he was visited by me several times, and received unremitting attention and all observance from the pupils left in constant care of him. The fifth and sixth days were passed much in the same way, with the exception of the vomiting, which was not latterly so prolonged. The ice, too, after a time lost its effect, which was very marked after its first application, and on the seventh day the poor fellow lay comparatively exhausted; countenance visibly emaciated, and the same ghastly stare on it. Occasionally he makes the attempt to vomit, and suddenly rolling from side to side to get rid of the "feeling in his throat," constantly seizing on any one within his reach, and gripping him tightly down to him, supplicating assistance. Again turning partially over the side of the bed, with the head projecting over and downwards, then as suddenly flinging himself back, exhausted from his efforts. Thus he struggled on until ten minutes to three o'clock p.m., when he died just a week after the fatal bullet had stricken him. He raved for about ten minutes before death.

Post mortem.—Twenty-two hours after death, Nov. 8th, 1867, at half-past twelve o'clock p.m., before a crowded theatre of surgeons and students, assisted by Doctors Moore and Ledwich, I endeavoured at first to pass a bougie through the track of the wound, but the instrument was quickly arrested, owing to the contraction and subsequent narrowing of its course. Failing by gentle means to do so, I then slit up the abdominal wall through the linea alba from the ensiform cartilage to the pubis, and divided each lateral portion next by transmission from below the umbilicus backwards to the anterior edge of the quadratus lumborum muscle on either side. These

incisions were conducted with the greatest care, so as to guard against the slightest injury being inflicted on the parts beneath. On throwing back the flaps, formed after the manner described, the viscera were revealed, not puffed up, swollen or distended, but rather matted, or, as it were, agglutinated together by their own weight *en masse*. Evidently blood of a dark colour was extravasated largely and widely, not in fluid or coagulated masses, rather incorporated with all the tissues. This was the most striking peculiarity, and certainly a very unusual one, of the discolouration. Though the omentum was discoloured by this injection, and lay as it were in demonstration of its several layers and compartments, by the minute distribution and quantity of extravasated dark blood, yet these layers were not adherent to each other or the neighbouring surfaces, for the least effort lifted the omentum throughout its entire extent, and so likewise though the intestines were all livid, purple from the same cause, and steadily approximated to each other, yet they were not adherent. There was a dried condition of the opened surfaces of the small intestines, and though lying together as if *heavily*, not agglutinated by adhesive lymph. On lifting up the liver the under surface of its right lobe, close to its longitudinal fissure, was torn for about an inch in extent, not deeply, to about the eighth of an inch in depth by the passage of the ball; and from this it was reflected to the right kidney, which it broke up near its hilus, and then struck the right crus of the diaphragm, splitting it vertically (the stroke as if inflicted by a knife, so sharp and divided was the wound), and severing most important parts resting upon it It was clearly demonstrated that the edge of the pancreas was cut, the right semilunar ganglion broken up in pieces, as well as several important nerves and vessels determined to this spot for communication and supply wounded; the bullet in its transit through the right crus of the diaphragm, cut the side of the inferior vena cava in its upward course, making an opening as if punched out, and in calibre about the size of a large goose quill, and from this great vessel flowed out so copiously the extravasated blood that coloured and permeated every tissue and recess that it could make by its steady flow and weight. The ball having passed through these vital parts, it entered, somewhat to the right of the median line, the body of the fourth lumbar vertebra, and passed backwards through its cancellated texture for an inch and a half, with a slight inclination to the right side, and made its partial exit in front of the right transverse process of this bone, where it lay. A probe passed

through the anterior opening, the slit in the right crus, detected the roughened bone beneath, and on being gently pressed passed into the aperture, detecting the bullet lodged deep beneath; the attachments of the poas magnus muscle on the right side being turned outwards, away with the greatest care and gentleness from its attachments with the bone and the corresponding one above and below, revealed the ball in its "*locale.*" Where it stopped, a very small quantity of blood was thrown out around, and it appeared to me, from the ease with which the fibres of the muscle lifted up, as if they had receded from contact with the ball. The ball lay in its bed, and as it were ran its course till its force was expended; the apex of the cone of the bullet pointed backwards and to the right side, and was quite exposed to view, whilst its base rested concealed within the body of the bone, from which it had not passed. The bullet was of the minnie form, three quarters of an inch long, nearly half an inch in width, and in weight three drachms fourteen grains. The size of the ball in form accurately represented in the woodcut.

I removed the entire lumbar spine from the body, and have it in my collection, as well as the ball which inflicted the mischief. On careful examination of the bone it was quite clear that the spinal marrow or the canal in which it lay were not impinged upon, and indeed the perfect sensibility and power of motion which the man possessed in the lower extremities throughout the entire period of his life, lead to such an inference, which we perceive now confirmed by the *post mortem* examination as revealed.

I shall next detail the second case of severe gunshot wound which was admitted at the same time, on the same night, and inflicted by the same hand, and with the same murderous intent.

CASE II.—*Gunshot Wound above the Ensiform Cartilage, attended by Numerous Complications—Inflammation of the Chest and of the Peritoneum—Profuse Intestinal Hemorrhage—Cutting out of the Ball from the Chest—Recovery.*

Police Sergeant J. Kelly, aged thirty-three, was admitted to Mercer's Hospital on the 31st of October, 1867, with Constable

Kenna, at a quarter past one o'clock in the morning, after being shot on the same beat and in a few moments after. On his admission he was collapsed to the lowest degree; almost pulseless; tottering in his gait, even between the steady support of two powerful men who sustained him; his moans were subdued and altogether suppressed in a remarkable way. On his being questioned, his sufferings were not of that acute terrible description which harassed his fellow-sufferer, compelling him to scream out wildly, and even madly at times. On being stripped, and most carefully examining the body, no second wound could be discovered; and the point of entrance of the bullet was a small transverse slit, three-quarters of an inch above the extremity of the ensiform cartilage; the edges were not inverted, and were cut sharp; the wound was similar in every respect, save in position alone, to that inflicted on Kenna. It was situated also exactly in the mesial line of the body; from it, too, trickled a few drops of blood. There was no discolouration or any trace at all by which to mark the course of the ball; neither were there any peculiar symptoms by which to judge of certain injury to any particular vital organ. From the serious position of the wound, and the terrible collapse consequent upon its infliction, the magistrate considered it expedient, in this case too, taking his "dying declaration," which in words and matter almost exactly the same as that made by Constable Kenna, first shot. The same energetic means were put in force here as in the foregoing case: to restore the heart's action, and to uphold the sinking powers of life. Towards morning the pulse was steady in its beat, though exceedingly feeble, and even tremulous; the surface of the body was still cold and sweatty; and the same watchfulness, or rather seeming anxiousness in the eyes, a half-scared look. For several days his condition did not vary much from that of his injured companion; there was the same tendency to die by sinking and prostration; and there was the same energetic means, and constant applications of dry heat to the surface; the administration of stimulants and sedatives, &c., as often, and as persistently as symptoms would permit of; as in the former instance, so in this, the urine had to be drawn off, and so the bladder relieved. On the fourth day after his admission, and on the 4th October, I had the man removed to the next ward, bed and all, so he did not suffer the slightest shake or disturbance. I acted so, in order that he might not be a witness of the dying scene which just hung over his companion; he thus was saved, and escaped from the additional depressing agency of such a trial. The man was so little alive

himself, that he made no comment on the change of place, but lay calm and quiet, staring vacantly upon the ceiling. However, he was alive, and without any marked complications, though as depressed still, and sunken, as compatible with life.

5th November.—Up to this period the patient has been kept under the influence of small doses of calomel, and very large ones of opium; with the application of mercurial ointment over the abdomen and in the vicinity of the wound, with constant stupe cloths wrung out of hot water, with layers of French wadding, and oiled silk outside all; in this way early symptoms of inflammation and terrible pain in the vicinity of the wound and over the abdomen were averted. Evidently incipient inflammation of the peritoneum, and of the tissues in the track of the wound. Now the system was slightly touched, just ruffled by the mercury and the pain gone. Calomel was stopped, but the opium continued in grain doses of the powder every third hour, day and night, when awake. On the morning of the 6th of November, patient very restless; pulse throbbing, and flushed, particularly over cheeks and forehead; eyes very brilliant; and perpetual restlessness about the man. The cause was at once accounted for when I was shown pure arterial blood to about two and a half ounces, which flowed in a stream from the bowels; the sudden faintishness which came over the man, the nurse said, stopped it. This complication occurred only an hour before our morning visit, at 9 a.m. The explanation was taken, and so taken by me, that some large vessel, wounded at the time of accident, killed as it were, bruised or torn, never bled then, and so the depressed dying state of the man, favoured its being sealed up, not disturbed; and it was not till five days after, when some life was restored, when the heart began again to throw out its current a little more freely, and when the stream was a little stronger, that it overcame the blocked wound in the vessel, shoved out its retracted coats, and dilated its contracted fibres, and so liberated from the stricken deadened tissues of its tube, the artery allowed the blood to escape, pure oxygenated arterial blood. This bleeding, on the fifth day, of so profuse a nature, of purely arterial character, was certainly a most serious complication. When I had my patient only first alive, well then, I had to undo what I had been labouring for days to accomplish, when hoping was even against hope. I would here mark down and say how remarkably the complications of disease stamp their types, here in this sunken, prostrated, half alive creature, in a

few moments were lit up all the characteristics of the hemorrhagic tendency, the flushed face, the restlessness, the bounding pulse, through unfilled tubes; the throbbing main arteries of distant regions; and yet withal an occasional deep respiration, and often a succession of them, as it were, to give more capacity to the chest to constrain the return of that stimulus upon which its function seemed so dependant. Ordered a grain of opium, and three of acetate of lead every third hour; all drinks to be given cold; the brandy could not be dispensed with, and had to be continued in small doses, and in ice-water; ice to be constantly placed in the mouth to allay thirst; all warmth, stupes, &c., to be removed from surface of abdomen. 4 p.m.—Two considerable evacuations of pure arterial blood since early visit; heart still bounding, and pulse throbbing; ordered fifteen drops of tincture of digitalis every half hour, watching the pulse; to continue the acetate of lead and opium; no change of posture since the patient's admission. 9 p.m.—The patient has been very restless, with great heat of body; two large evacuations, nearly three ounces each of pure arterial blood. Now applied bladders filled with ice along the spine, from the middle of the dorsal region to the end of the sacrum; and, likewise, bladders filled with ice, were placed over the entire abdomen; continued the digitalis as before; and also the lead and opium pills; sips of cold chicken broth and chicken jelly given occasionally. Visited again at 1 a.m.; only one small arterial evacuation, about half an ounce since last visit, four hours past. Renewed the ice to the spine and abdomen; all other means to be continued; the digitalis in only ten drop doses; the heart being now quiet, and the heat of the body greatly diminished; the throbbing of all the larger vessels in the neck, temples, and arms, subdued.

Nov. 7, 9 a.m.—Had some sleep, and only one evacuation of blood, about an ounce; it was darker in colour, and a considerable amount of serous fluid making this quantity. The whole temperature of the body greatly reduced from the unremitting application of the bladders filled with ice; still to be continued, precautions being taken to interpose some linen between the bladders and the parts to prevent vesication, or, as might be, sloughing; stopped the exhibition of digitalis; altered the acetate of lead to two grains and a grain of opium every fourth hour; brandy with iced water; all nutritive drinks and jellies iced. Pulse is now calm, but very feeble, yet I dared not hurry the circulation or exalt the temperature, which will account for the line of treatment just laid down. The

wound has altered in its character; instead of being the mere slit which I described its character to be at first, its edges now have all changed both their shape and colour; the entire has assumed a circular form; the thin, sharp edges are dead and around for fully half an inch from the margins, while a wide, dusky-red circular patch, for nearly an inch beyond, bounds the circumference of this deadened portion. The changes in the vicinity of the wound were carefully watched from day to day, and gradually this remarkable alteration of appearance was brought about. The most gentle touch and well directed, throughout all this region and in its vicinity, could not detect any trace whatever of the foreign body that entered there; but gentle pressure below the wound and somewhat to the right side, could lift up as it were a few drops of pus from some deeper source beneath, evidently from the lacerated track through which the ball travelled. With this wound, from the very first, there was no meddlesome surgery, nor poking into it; it was subjected just as I have said to the gentlest touch, to try and discover whether any foreign body could be detected in its vicinity. In the treatment of it there was no traction excited upon its edges to solicit their union; the wound was left open, so that any matter secreted might well up from it and be expelled by the slightest cough or pressure, and this aid would insure its escape, and so prevent pouching. A soft, light linseed meal poultice was applied to the part morning and evening, so as to relax tissues. The man never complained of pain in the wound. 4 o'clock p.m.—But one very small arterial motion; dark fluid, with only a trace of bright blood through it; chest quite clear on percussion; to continue everything as ordered in the morning. 9 p.m.—No motion from the bowels since last visit; pulse quiet; all throbbing of the large vessels absent for some time; urine passed in full quantity; omitted the ice to the spine; continued it still over the abdomen; omit lead and opium pills, and ordered a grain of powdered opium every third hour; drinks and nutriment iced as before. 12 p.m.—Sleeping quietly; bowels undisturbed; pulse steady, but very feeble; no change in treatment.

Nov. 8th, 9 a.m.—Had a quiet night; two motions from the bowels—still arterial weeping, about half an ounce in each—a good deal of dark fluid besides; no pain, but patient lies perfectly restless; staring at the ceiling, and scarcely can be induced to take the trouble of speaking; ice applied in bladders again along the spine and over abdomen; to continue the opium, nutriment, &c. 4 p.m.—

Bowels quiet; has taken nutriment well; pulse steady and weak. 9 p.m.—No motion from bowels; remove ice from spine; to continue all other treatment.

Nov. 9th.—All bleeding stopped; one dark motion; pulse steady, but very feeble; wound presents no danger except the separation day after day of the sloughing edges; discharge in small quantity; quite healthy pus; it generally fills the aperture to the surface; does not run over, and even pressure on its circumference does not increase the flow more than a couple of drops, and that only when made in the direction I alluded to before. Ice still applied over the abdomen, and opium continued; diet also all cold. Visited 4 p.m., and at 10 p.m.—No change in symptoms or treatment.

Nov. 10th.—Slept at intervals quietly; pulse steady, feeble, 110; no bleeding or evacuation from the bowels; urine in fair quantity, rather high coloured; the light, warm poultices still over wound; discontinue the ice as applied over abdomen; all treatment still cold; opium in grain doses to be continued every fourth hour. To-day, for the first time, there appeared a slight purplish discolouration over the lower part of the right side of the chest, just above the liver towards its thick end; no tenderness on pressure or pain on deep respiration; no hardness or tension throughout the entire of this inferior thoracic region, but slight dulness on percussion; respiratory murmur I might say natural. Visited at 4 p.m. and 11 p.m.; no change.

Nov. 11th.—Had rather a restless night; complained of pain around the wound on the effort being made to fill the chest with air. The discolouration posteriorly as alluded to on yesterday, and present for the first time, greatly diminished; ordered twelve leeches to be applied around the wound along the track of the pain, which ran somewhat in the course of the costal attachments of the diaphragm on the right side. After bleeding freely, warm stupes to be put on for some time; a linseed meal poultice over leech bites, wound, and all the painful parts; a grain of powdered opium to be given every second hour; diet as before, limiting the brandy to two ounces, barely sufficient to stimulate the heart. 4 p.m.—Pain relieved, the leeches having bled very freely, but not entirely gone; stupes and poultice to be continued. 9 p.m.—Pain entirely gone, even on deep inspiration; poultice to be continued, and layers of fresh wadding and oiled silk over all; bowels quiet, all hemorrhage having been checked for the last two days; to continue the opium every second hour. Though such large quantities of opium have

been taken, the pupils are not contracted, nor has the man been in the least narcotized.

Nov. 12th.—Little change since yesterday, except that the discolouration of the side has all been dispersed. Pulse still very weak, 112, and all the augmented action of the circulation has long since been subdued. Bowels moved; no blood, but the evacuations very dark coloured; urine in fair quantity; no alteration in the wound; to continue local and constitutional treatment as ordered on yesterday morning. 4 p.m.—Again pain of a very acute character; embarrassing respiration, and fixed about from three to four inches behind the wound, and on the right side. At once ordered twelve leeches, stupes and poultice; the grain of opium every second hour; hot jars to the feet; pulse still rapid, yet small and feeble. 9 p.m.—Pain, though subdued, yet still very embarrassing; applied over the right lower thoracic region, and the upper part of the right hypochondriac, a large blister, with a hole cut in its centre, corresponding to the position of the leech bites recently inflicted. Over the entire surface, &c., hot stupes, and to be replaced by a thin linseed meal poultice for the night; opium steadily.

Nov. 13th, 9 a.m.—Pain checked altogether, and the man had a fair quantity of sleep; detected now for the first time some little fulness between the eighth and ninth ribs on right side, and posteriorly behind their great curves moderate tension of the corresponding intercostal muscles, and to very delicate touch some slight deep œdema. This region was likewise more dull on percussion, and now vesicular respiration in the lung on the right side was heard very feebly and very deep within. This important change, as I discovered, was borne testimony to by the most careful examination of our distinguished physician of the hospital, Dr. Moore. Now my watchfulness for several days was directed towards this locality as the most probable lurking place of the bullet. The pain referred in this direction, though not exactly to the spot, on more than two occasions; the discolouration which appeared, and so rapidly again passed away; the injury inflicted on the man's clothes where torn by the bullet and the crushing of the button, even in a particular direction, all, it must be admitted, very separate links, yet when connected, leading towards a particular inference, that taken by me, as to this being the site in which the ball would be found. Treatment as on yesterday. 4 p.m.—Pain relieved entirely; bowels quiet. Carefully I examined again for the ball. Kneeling beside the patient's bed, I passed my left hand very gently over

the suspected part of the chest, and then with the index finger of my right hand carried gently from before backwards along the eighth and ninth intercostal spaces, and corresponding to that part already marked out by auscultation and percussion, as somewhat dull, by the lightest palpation with the finger, between the eighth and ninth ribs, just behind their great curve, I thought I could discover within the chest a solid body; twice I got the slight shock to my finger, so as to make me certain that a foreign body was within, small, weighty, and movable. After these very gentle efforts the foreign body eluded me altogether, and the best directed touch could not discover its presence. 9 p.m.—Free from pain; pulse 115; patient a little flushed; wound suppurating healthily; all sloughed part cast off; chest and abdomen covered with stupes and French wadding, and oiled silk as before; opium continued; all nutriment now given tepid and even warm.

14th November.—Still flushed; pulse, 112; bowels freed; no return of blood; wound healthy; no pain in its vicinity; again examined carefully the affected side; no discolouration or increased œdema; no extension of dulness or want of respiratory murmur—as by an application of the same delicate tact as pursued on last evening, I again discovered the same weighty tap from within, on gentle palpation over the suspected spot. This sensation was likewise appreciated by my able colleagues, Doctors Moore and Ledwich, yet quietly again the ball hid itself and could be no more felt. I rolled the patient the least degree from off of his back over towards the sound side, not more than three inches, when the foreign body eluded all further detection; neither was it to be discovered on the patient being brought back again to his former position. To continue opium; stimulants; nutriment 4 p.m.—I could not discover the foreign body, in the most careful and gentle examination. 9 p.m.—Having again made search for the foreign body, I discovered it as distinctly as on the second time; no doubt within the chest, and with some range of motion permitted to it—most likely chambered off from the general pleural cavity.

November 15th.—The man had a restless night; pulse 116; skin hot; face flushed; and refused his food. I again examined carefully the chest, but could obtain no information as to the presence of the foreign body as satisfactory as before; continue treatment. 4 p.m.—At this visit I again felt the weighty little body, by the same gentle palpation, very deep, and with the gentlest touch I

could satisfy myself of its form. I pronounced it, without doubt, to be the bullet. The man made a slight change in his position, and again it was gone, and hid itself, so that it could not be found out; however, I was satisfied that the bullet was there, and determined if I again got the same evidence, though involving so weighty a question, at once to cut down upon it and accomplish its extraction. However, this opportunity was not permitted to me, either at this time or when I again visited my patient, at 9 p.m.; and I may state, at this last hour I could not satisfy myself even of its being there.

November 16th.—On this day, the sixteenth after the accident, I extracted the ball from Kelly's chest, at twelve o'clock. For the past three days I was cognizant of some solid material floating about, easily disturbed from its position, and situated far back on the right side of the chest, corresponding to the region behind the greatest curve of the ribs, and between the eighth and ninth ribs; on palpation, it was to me evident; there was some little fulness in front of this, corresponding to the blood discoloured mark before alluded to, as being present on the right side; I determined now to cut down on this point, where I supposed the bullet lay, and returned to the ward to do so at half-past 9 a.m. The patient could not be stirred from the bed without a fatal risk; we therefore drew down the bed from the wall and turned it, with the affected side of the patient towards the window. The patient was then gently turned for nearly half a turn towards his left side; but it was now difficult to be certain of the presence of the ball; therefore, for the time, further proceeding was abandoned. I was compelled to desist, from the sinking state of the man, from terror in his enfeebled state at the prospect of an operation; a full dose of brandy was given to him in hot water, and the patient was allowed to remain in his bed, placed in the same position, opposite the window, as I intended to return after a little while when his fright passed away, and his pulse got up. At 12 o'clock I again met my colleagues, as I was not satisfied in allowing the ball to remain lodged any longer; I gently now turned the patient over less than half a turn, and had him sustained so by assistants; having now distinctly felt the ball, I cut down upon it, in a line corresponding to the course of the ribs, and midway between the eighth and ninth, somewhat nearer to the upper edge of the eighth, the incision was about three inches and a-half deep through the integuments and external layers of intercostal muscles; in the second

cut, deeper through the internal layer, and adventitious material, fully a table spoonful of purulent matter escaped, and some coagulated blood with it; I then pressed steadily upon the part, and the bullet presented its convex end and was readily drawn out; but little matter followed its extraction; I put my finger into the wound and gently searched around; a very considerable cavity, quite smooth on the surface next the lung, but somewhat uneven externally or towards the ribs; the full length of the index finger could range this cavity; I am certain it did not communicate with the right pleural cavity, or it may have been a part of it walled off by adhesions to the visceral layer; this I believe was what really took place, or in other words, the pathological change assisting the ball in its escape from detection during several examinations, yet always retaining it within certain bounds, so that it could again be found. I have mentioned having searched carefully this cavity, my chief object being to ascertain if any foreign bodies, a piece of cloth, the missing top of the button, or some other portion of the man's dress, had been carried in before the bullet in its rapid course; such happily was not the case; there was no bleeding from the wound; I placed a few shreds of lint steeped in oil within the track of the wound, so as to allow any fluid secreted within readily and at once to escape; a small lint compress was placed on either side of the wound, and the parts supported with a few wide straps of adhesive plaster, so as to prevent undue motion of the ribs and wounded parts; the man was much elated on the extraction of the ball; yet, to prevent syncope, brandy had to be freely given. The ball was somewhat flattened in its cone where it struck the button, it also had stamped on it the first two letters of the word police, which was on the button, and also some of the internal copper layer of the button impacted brightly on its surface; in a deep groove on one side of the ball lay compressed tightly a small piece of the cloth of the man's coat. The ball was similar in size, weight, and form to that which I extracted from the body of Constable Kenna, shot

by the same man, and with the same pistol. (By looking at the woodcut, its size and form may be observed—most accurately and

beautifully represented by Mr. Oldham.) 3 p.m.—He has been doing well since the operation, and is now in a tranquil sleep.

Nov. 17th, 9 a.m.—Slept well, in fact continuously; pulse 120; bowels moved once; motions still dark, but more solid; no pain in the wound, which I made on yesterday, no tenderness about it; the man still lies quietly on his back; did not disturb the dressings; the wound of entrance suppurating and granulating healthy; some intercostal pain towards the left side, a little above the heart; chest clear on percussion throughout; feet a little œdematous, owing, I think, to the drooping position in which the limbs lay; ordered stupes wrung out of boiling water, sprinkled with laudanum, over the abdomen and over entire walls of the chest, and a mustard poultice over the pained part above the heart; omit opium now in the day, one full grain of the powder at bed-time; ordered two grains of quinine and ten drops of aromatic sulphuric acid in a little water, every fourth hour; an egg beaten up with brandy and milk, and an ounce of brandy every second hour; beef-tea and chicken-broth. Drew the man up in the bed more, and supported him so with pillows, so as to prevent congestion of the lungs; the legs were slightly elevated too, so as to lessen œdema. Visited at 3 p.m., 8 p.m., and 12 p.m.; not necessary at any of these periods to alter treatment.

Nov. 18th.—Slept quietly; pulse down to 105, soft and feeble as might be expected. The falling of the pulse, fifteen beats in twenty-four hours, was very good, showing, in a decided manner the relief from irritation, the foreign body, the bullet being removed; bowels opened twice, too freely, so ordered a chalk-draught with kino, extract of catechu and opium; beef-tea stopped; arrow-root and port wine every third hour; and eggs beaten up with brandy and milk as nutriment. Changed the patient into a fresh bed, and placed with the trunk somewhat elevated to guard against congestion and traumatic pneumonia. 3 p.m.—Bowels moved again since early visit; repeated the astringent draught; ordered port wine mulled with spice, and port wine and arrow-root. 8 p.m.—quiet. 11 p.m.—Bowels quiet; pulse at same range as in the morning; to continue.

Nov. 19th.—This day there is a marked improvement in every way; pain in chest gone; gone on deep inspiration, except at a small point in the vicinity of the anterior wound; pulse down to 90, that is twenty-five beats in the minute, in 48 hours, since the operation; his countenance is brighter and not congested; and his breathing is

altogether easier; bowels quiet since last evening. The wound which I inflicted for the extraction of the ball, though just four inches long, is healed, very nearly by first intention, very little imperfect pus escaping. There is no pain over the region on pressure, and though dull on percussion, yet respiration is quite audible at some depth from the surface; readjusted pads and adhesive straps as before; the anterior wound that was inflicted by the bullet, is contracting, granulating freely and healthily, and, as a consequence, healthy pus secreted from it, but in very moderate quantity, never welling over; œdema of feet all gone, owing, I think, to the changed position of the man; wine in full quantity; beef-tea and chicken-broth, and a little bread crumbled in it, now for the first time since the accident; brandy and eggs. The patient is now well propped up, kept nearly in the sitting position, so as to guard from hypostatic congestion. 3 o'clock.—Has had some very refreshing sleep, and feels stronger and more cheerful. 11 o'clock.—Has taken all his food, steadily, and is now to have his grain of opium in pill.

Nov. 20th.—Slept well; pulse 90, soft; bowels moved twice, so discontinued the beef-tea, &c., and ordered rice boiled, well broken, and rice milk; arrow-root with port wine; an ounce of brandy every second hour, and each alternating quantity with a beaten up egg; slight pain complained of a little to the right of the bullet wound; the lips of the one made for the extraction of the ball glued together, so broke up the adhesion with a probe, and allowed some matter and a little blood to escape, assisted by gentle pressure; applied a soft linseed meal poultice over the entire right side, and opiate stupes over the left and abdomen; bullet wound healthy. 3 p.m., Much improved since morning; congestion, from position, considerably diminished; some uneasiness in right side of chest, but pain relieved on deep inspiration; bowels quiet since morning. 8 o'clock, and 11 p.m.—No pain; to continue treatment.

Nov. 21st.—Slept well; bowels moved once, and for the first time of a proper natural feculent colour, giving evidence that the liver is performing its functions again; œdema of limbs nearly gone; tongue moist; pulse 90, soft; slight pain on deep inspiration, between the bullet wound and the one made for its extraction, the former looks healthy, rapidly filling up and sufficiently moistened with healthy pus; the inflicted wound for extraction, discharging a little laudable matter. Expectoration of matter from bronchial membrane much less, and the congestion of the lungs considerably diminished, and even remarkably so in the right lung. Again enveloped the entire

right side with a linseed meal poultice, a little oiled lint being placed within the lips of the wound; the anterior one dressed as before, with simple ointment; the opium stupes over the entire belly; diet as on yesterday; rice, rice-milk; arrow-root and port wine; brandy and eggs freely; one grain of opium at night; kept well drawn up and sustained so in the bed. 3 p.m.—Feels very comfortable; no pain. Visited at 8 and 11 p.m. To continue every thing.

Nov. 22nd.—Had a good night, slept uninterruptedly; no pain on inspiration, even when forced or made deep; tongue clean; bowels moved once, healthily; pulse 90, soft; œdema of feet gone; wounds suppurating; reapplied the poultice over the entire side; expectoration much diminished, and, in character, more clear and mucous than the discoloured pneumonic characters that prevailed up to this time; rice and rice-milk; brandy and eggs as before; one grain of opium at night. Visited at 3 p.m., 8 p.m., and 11 p.m. Still steadily mending.

Nov. 23rd.—Slept a shade better in every respect; voice scarcely audible, still so weak; bowels once, and solidly moved, and of natural colour; to continue brandy in same quantity; one grain opium at bed-time.

Nov. 24th.—Improving steadily; sleeps; eats, &c.; stopped some of his brandy on yesterday and to-day; he is now taking eight ounces and six ounces of wine.

30th Nov.—Has continued improving up to this morning since last report; wound in side healed, and no tenderness in the line of incision or around it; but the dulness still continues for an area of at least two inches in its circumference; the bullet wound is filled up, nearly cicatrized; but this morning the patient referred pain of a sharp character on deep inspiration or on coughing, to a point about two inches below, and one to the right of the wound. I at once had applied eight leeches with relief, blood being taken afterwards by warm stupes, and the part then covered with a linseed meal poultice. Towards evening the pain had abated, but not altogether gone; the stupes repeated, and a poultice to cover the part for the night.

Dec. 1st.—Slept quietly; pain gone from the position complained of on yesterday, but now referred to a point about two inches (accurately an inch and three-quarters) below that where it centered on yesterday; ordered six leeches over the part, the stupes as before followed by the linseed meal poultice; bowels opened healthily;

pulse quiet. 9 p.m.—Pain somewhat relieved; ordered two grains of opium; poultice and stupes to be continued.

Dec. 2nd.—Slept well; can now draw in a full breath without suffering any pain; both wounds healed up; to continue poultices and stupes, and two grains of opium at night.

Dec. 8th.—All annoyances gone; all wounds healed.

Dec. 10th.—Allowed to sit up; dressed.

Dec. 12th.—Quite convalescent; walks a little about the ward, assisted by a comrade.

Dec. 16th.—Can now walk about without any assistance, and regaining health and strength rapidly; and the poor fellow was dismissed cured on Monday, the 23rd of December, to Christmas at his own home. I have frequently seen Kelly since he left the hospital, and he seems now getting strong and lusty, and in excellent spirits. The woodcuts on the frontispiece adorning these pages, and executed by Mr. Oldham, from beautiful photographs by Robinson, taken a few days since, give two views of the patient; the one exhibiting the cicatrized wound in front, the point of entrance of the ball; the other, the site of the cicatrized wound, the lineal incision made by me for its extraction.

In the surgical report just closed I have dwelt briefly on every practical question, and therefore, in conclusion, I shall only make the few following observations. From a review of every circumstance in connexion with these cases I think it will be admitted that two more formidable examples of gunshot wounds could not have fallen under the observation of the surgeon. Now, from a close analyzing of the symptoms of the injuries inflicted in each, of the momentous consequences resulting from the operative procedure called for, no want of vigilance, or deviation of surgery from a healthy standard, could be permitted. The same laws should ever regulate the military practitioners as the civil surgeon—the wise and considerate appreciation of facts, the judicious interference of operative art. Every civil hospital surgeon understands the regulating laws of projectiles, and to what extent they may assist him in arriving at correct views in any given case, and the sharp quickened intellect of the civil hospital surgeon, can, as rapidly as any other, detect the slightest deviations or changes requiring a departure from ordinary rules. Any of the complications likely to arise, or that may ensue after gunshot injury, are those well known and quickly recognized by the civil surgeon in

his ordinary practice, in cases where violence has been impressed on the living frame; and any operative measures that may be required after gunshot injury, are as sedulously anticipated, and can as effectively be executed by him as those every day occurring, the result of ordinary violence. Every educated surgeon is aware of the relentless violence inflicted upon every tissue of the body, hard and soft, by the rifled barrels, breech-loaders, and conical balls adopted in the instruments of warfare of the present day, and yet the same great practical lessons laid down by Hunter, by Guthrie, by Hennen, by Thompson, will remain for ever as storehouses of knowledge, from which all moderns may draw abundantly. As for Hunter's writings they stand the very impersonation of truth. Hunter's great work on the blood, inflammation, and gunshot wounds, published in 1794, will for ever stand as a monument of his ability, his originality, and his profound thought. Time and inquiry only bring out the beauty of his conceptions, the unyielding accuracy of his opinion; and in all his writings so genius has marked him, while some of his aphorisms remain still beyond our grasp—like the bow of Ulysses, that none but its master could bend.

ART. X.—*Contributions to Operative Surgery.* By HENRY GRAY CROLY, Fellow and Licentiate of the Royal College of Surgeons in Ireland; Licentiate of the King and Queen's College of Physicians; Surgeon to the City of Dublin Hospital; Lecturer on Clinical Surgery; Senior Demonstrator of Anatomy in the School of Surgery of the Royal College of Surgeons; &c., &c.

I. EXCISION OF THE ENTIRE LEFT SUPERIOR MAXILLA, BY A SINGLE INCISION, FOR MYELOID TUMOUR.

II. EXCISION OF HALF OF INFERIOR MAXILLA, FROM THE ARTICULATION, FOR EPULIS.

III. REMOVAL OF A LARGE PORTION OF THE LOWER JAW FOR NECROSIS.

OPERATIONS for the removal of the upper and lower jaw must be considered very remarkable achievements of modern surgery.

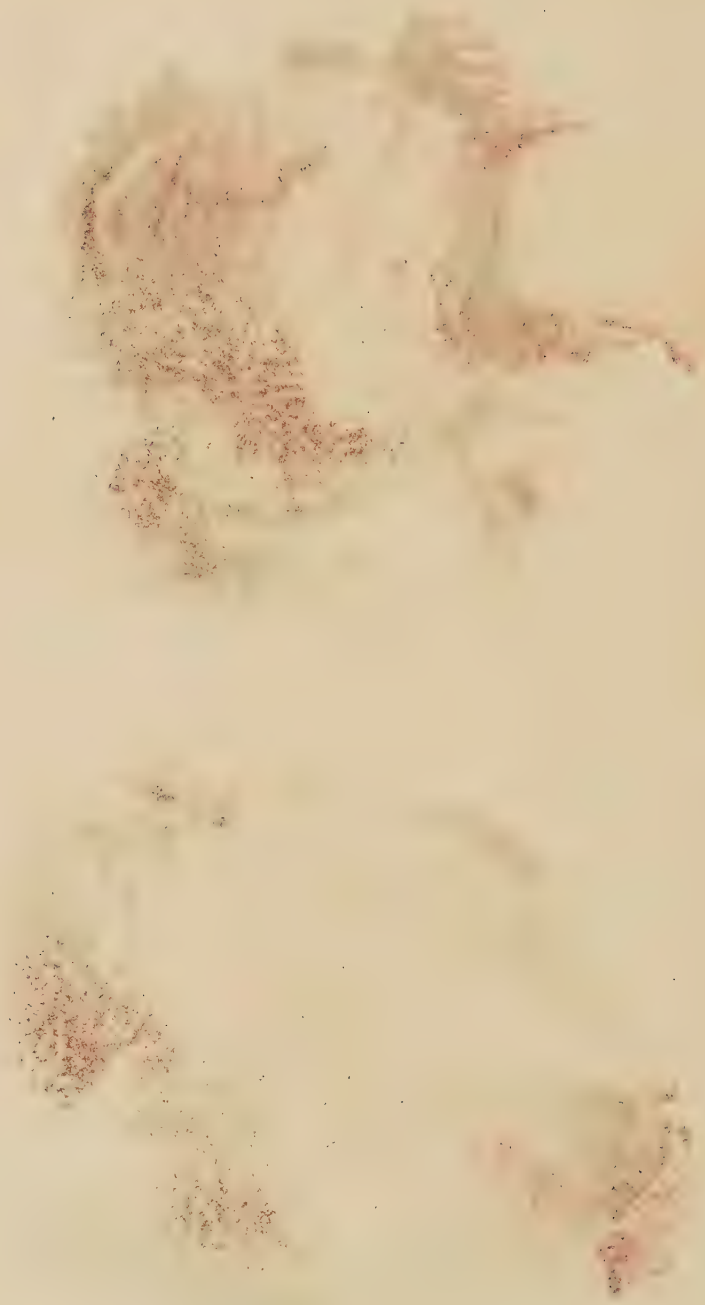
The diseases requiring such bold procedure cause much deformity and personal discomfort to the patient, and, by implicating vital

Fig 1.

Fig. 2

Mr CROLY ON EXCISION OF UPPER JAW

Forster & Co Dublin.



structures, may terminate in sufferings rendering existence itself miserable, if not timely relieved by the skill and dexterity of the surgeon. For example, tumours of the antrum are liable to project on the cheek, producing hideous deformity, and to extend into the mouth and fauces, thereby impeding mastication and articulation. Loss of hearing and vision are also complications which may occur, and the morbid growth, by extending upwards, may press upon the brain through the extremely thin osseous plate forming the roof of the orbit.

I do not consider it necessary in this paper, which is intended to be entirely practical, to enter into a description of the various forms of disease involving either the upper or lower maxilla, and requiring partial or complete excision, or to enumerate the various opinions of the distinguished surgeons who proposed and planned the several methods of operating in such serious cases. Each, in my opinion, ought to stand on its own merits, as presented to the surgeon, who will decide and act accordingly.

The first case which I relate was a well-marked example of "myeloid" tumour, involving not only the cavity of the antrum, but the periosteum of the entire upper jaw, in a patient thirty-six years of age. The disease commenced when he was in his sixteenth year, and, as will be observed from the picture taken before operation, caused great deformity by displacing the eye upwards, protruding the cheek, obstructing the nostril, causing epiphora, and pushing the nose towards the opposite side.

The second case of operation now reported was excision of the right half of the lower maxilla, from the articulation, for a large "Epulis," in a man fifty-six years of age, and so far as the operation itself was concerned, was entirely successful, the wound having healed, and the patient having so far recovered that he was able to be out of bed and go about the ward of the hospital: an attack of bronchitis supervening on an operation of such magnitude, complicated, as it was, by erysipelas and glossitis, produced so much exhaustion that it ended fatally.

The third case detailed was an example of necrosis of the lower jaw, produced by the incautious and excessive administration of mercury in a man twenty-seven years of age. The operation was urgently demanded by the almost exhausted condition of the patient, caused by profuse purulent discharge, from numerous sinuses, during a period of two years. The efforts of nature, aided by various remedies and surgical assistance, failed to detach

the sequestrum. The young man, according to his own statement, "was almost at death's door" prior to coming under my care, and is now in the enjoyment of robust health.

CASE I.—*Excision of the entire left Superior Maxilla for Myeloid Tumour by a single incision—Recovery with scarcely a trace of deformity.*

James K—, a farmer residing in the county of Cork, thirty-six years of age, was admitted into the City of Dublin Hospital on the 23rd of May, 1867, under my care, suffering from a tumour of the left upper jaw.

History.—The patient, who is a very intelligent man, states he got a kick from a horse twenty years ago in the upper jaw. There was not any wound inflicted by the blow, but he suffered intense pain. In a short time he noticed a swelling at the injured part, which increased in size gradually. Six months ago, whilst employed lifting some heavy timber, a plank fell on him and struck his face in the exact part where he received the kick from the horse in the first instance. The tumour became painful from that time, and he experienced a sensation compared to the darting of needles. Latterly the growth has distorted his face, and by pressing into the left nostril obstructed his breathing, and caused the tears to overflow. He consulted his medical attendant last month, who explored the tumour with a trocar; nothing escaped but a little blood.

Condition of Patient and Tumour on admission into Hospital.—Healthy-looking young man, dark complexion, and possessing a considerable amount of intelligence. His left eye is higher than the right, and protrudes to a slight extent from the orbit. A large tumour occupies the anterior surface of the left superior maxilla, of bony hardness; it has pushed upwards the orbital plate of the superior maxilla, and bulges into the left nostril, forming a convex swelling into that cavity. The nose is pushed towards the right side. On raising the upper lip the tumour is perceptible, and has a semi-fluctuating feel. Three teeth, commencing from the central incisor, are loose. There is a slight bulging of the palate plate of superior maxilla, and the patient winces when pressure with the finger is made on the roof of the mouth at the affected side.

His sight and hearing are perfect. I explored the tumour a few

days after his admission into hospital in the following manner:— The upper lip being held up I plunged a medium-sized trocar into the antrum; it entered the cavity, but met with resistance in the interior. The exploration left no doubt upon my mind that there was a solid mass occupying the antrum. Nothing but a little blood escaped, which was examined microscopically, and presented no abnormal appearance.

I explained to the patient my views of his case, and that nothing but removal of the entire upper jaw would free him from the disease, which seems to have grown more rapidly within the past six months, according to his own history, than for nineteen and a half years previously. He said he would leave himself entirely in my hands, feeling assured that I would do what was right for him. I communicated my opinion of his case to the surgeon, who sent him to me, with which he fully concurred. I consulted with my surgical colleagues, and it was unanimously decided that the removal of the superior maxilla should be performed.

The operation was performed on Monday, June 3, 1867, assisted by my colleagues, and in the presence of a number of hospital surgeons, and a large class of students.

The operation-table was so constructed that I could raise or depress the patient's head and shoulders at a moment's notice (which is of great importance in such an operation), and I arranged my instruments on three trays, so that at each stage of the operation I had no difficulty of having at hand the required instrument. The patient had no breakfast, but took some brandy and egg mixture, and to avoid the pain of the preliminary incision, I had him put under the influence of the tetra-chloride of carbon, which produced a rapid but temporary anesthetic effect.

I commenced the operation by making an incision from beneath and to the external side of the inner canthus, down by the side of the nose, and then under the nostril, and through the filtrum; making due allowance for the stretched integuments, I kept farther out towards the face than might at first sight appear necessary; by such line of incision, deformity was subsequently prevented.

The left incisor tooth having been extracted, I detached the mucous membrane and periosteum from the inside, at the junction of the palate with the alveolar process, and then made an incision along the median line of the palate, and another transversely,

corresponding to the anterior part of the velum palati. With a raspatorium I pushed back the mucous membrane and periosteum, but finding the tumour projecting, I at once abandoned the idea of saving the roof of the mouth. The lip and cheek, with ala of nose, were rapidly dissected, and held up by an assistant, thus exposing the anterior surface of the jaw and tumour. I then proceeded to divide, with a small saw, the nasal process of the superior maxilla, and, this having been accomplished, I partly divided the malo-maxillary articulation with the same saw, and with a cutting pliers completed the section of the bone. A large powerful straight forceps was next used, one blade was passed into the mouth, the other into the nostril, and the palate process of superior maxilla and palate bone were divided.

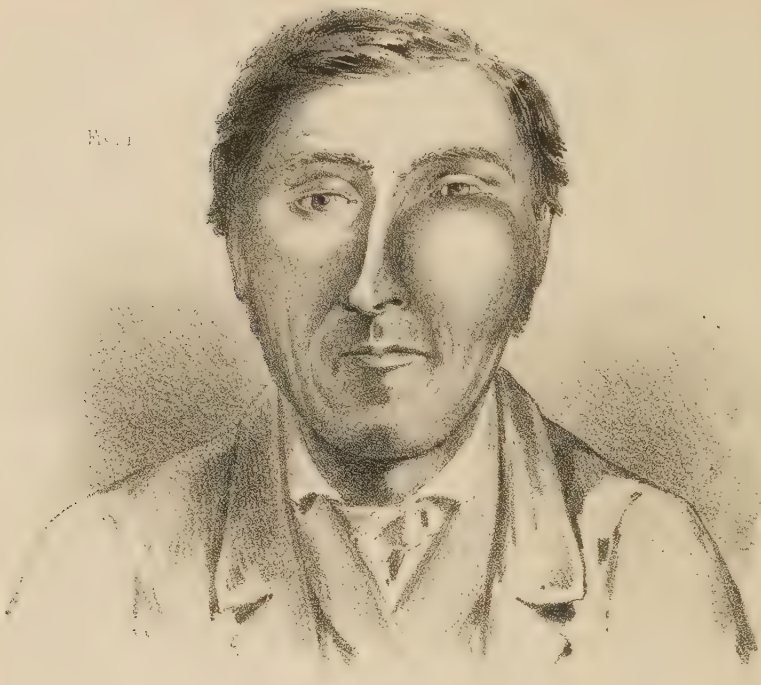
The eye was carefully held up with a curved spatula, and the origin of the inferior oblique muscle divided, together with the infra-orbital nerve. The entire tumour was then grasped in the "lion forceps," and by a downward and steady traction, with rotatory movement, the superior maxilla, with diseased mass, was extirpated.

The patient bore the operation remarkably well, and lost very little blood. His head was lowered for a few moments by the arrangement of the table, as already described, and he drank some brandy and water. The enormous gap left by the removal of so large a mass was carefully sponged out, and one large branch of the internal maxillary artery, which spouted at the bottom of the wound, was secured in the artery-forceps and ligatured. The "styptic colloid" was applied, with a bit of lint, to the raw surface, and at once checked the oozing from small vessels. Dr. Bennett, who kindly brought the electric cautery, applied it to one deep point; the hemorrhage was easily controlled. The cavity was filled with pledgets of lint, each having a long string attached, to facilitate removal, the ends of the ligatures being drawn out at the angle of the mouth. The edges of the incision were brought into perfect apposition with fine iron wire interrupted sutures.

The operation having been completed, the patient was carried with the "poles and sheet" into the spacious ward, which opens out of the operation theatre, and was placed in bed.

He took some brandy and iced water and also strong beef tea.

Three o'clock, p.m.—On visiting the hospital I found the patient asleep.



Eleven o'clock, p.m.—Pulse 80; patient very quiet; slept soundly since operation.

Iced water applied, with single layer of lint, to the wound.

June 4.—Pulse 64. No pain complained of; bowels not freed since operation. Ordered purgative enema; plugs of lint were removed, as there was some fetor from them.

June 6.—Pulse 60; patient passed a good night; bowels acted; wound looks healthy; no tension; nourishment continued.

Ten o'clock, p.m.—Pulse 80; wound looks healthy; mouth syringed with solution of permanganate of potash (Condy's fluid) in water. Slight redness on the nose.

June 7.—Pulse 72; patient passed a very restless night; was thirsty; erysipelatous blush over bridge of nose. Ordered cathartic bolus, turpentine enema administerd with O'Beirne's tube; muriated tincture of iron in whiskey and water every third hour; warm water dressings carefully applied over the nose and line of incision. Wine and beef tea continued.

The greater part of the wound has united by the "first intention."

Eleven o'clock, p.m.—Pulse 80; skin hot; patient slept nearly all day; feels much better; erysipelas has extended towards his left eye. Nourishment and syringing of the mouth continued.

June 8.—Pulse 72, soft and regular; patient had a good night; erysipelatous blush has not extended; warm water dressing to the wound. 10 o'clock, p.m.—Pulse 72; skin cooler; erysipelas has extended to right cheek, and disappeared from the left side.

June 9.—Pulse 80; no extension of erysipelas; good night.

June 12.—Erysipelas gone; cuticle peeling off.

From this date the patient made an uninterrupted recovery.

The erysipelas in this case was not preceded by rigor or any constitutional disturbance of consequence, and the redness in the first instance appeared on the bridge of the nose and not at the line of incision.

Her Tomsohn, from the establishment of Forstor & Co., took a sketch of this patient before the operation, exhibiting the great deformity (see Plate II., Fig. 1), and another drawing subsequently, showing his appearance after recovery (see Plate II., Fig. 2).

The coloured plate shows the upper jaw and tumour (see Plate I., Figs. 1 and 2).

My friend Mr. Baker, F.R.C.S.I., saw the patient about six weeks after the operation, and so trifling was the deformity that

he asked me whether I had removed the right or left side. He has since favoured me with the following note:—

"4, Clare-street, Merrion-square,
"Monday, March 16, 1868.

"My Dear Croly,—I perfectly recollect the case of the man Keily, whose upper maxilla you removed last summer. I saw him with you a short time after the operation. There was little or no deformity; so trifling was it that at a little distance it was not easy to say which side had been operated on.

"I remain,
"Very faithfully yours,
"J. A. Baker."

The subjoined letter from Mr. Plummer, who saw the patient in many months after operation, explains its complete success:—

"Dublin, March 17, 1868.

"Dear Sir,—I saw your patient Keily when I was at home for Christmas; he was working in a field, and in robust health. Having been present when you removed his upper jaw I consider it really wonderful the trifling amount of deformity which exists after the removal of so enormous a mass; in fact, you would not know, without very close inspection, that anything had ever been done. He speaks distinctly. I understood every word he said; and when I asked him if he wore an artificial palate, he said he had it locked up in a press, and he then brought me into the house and showed me the false palate. I consider the operation one you may be justly proud of.

"Yours sincerely,
"Walter G. Plummer,
"Surgical Student."

I consider it of practical use to append to the recital of the foregoing case a list of the several surgical instruments and appliances which are required, and should be at hand, when the surgeon is proceeding to excise the upper jaw, viz.:—Table of convenient height, with reclining head-piece or strong arm chair, with a board to secure the thighs; scalpels, artery forceps, tenaculums, dissecting forceps, tooth forceps, mallet and chisel, gouges, small saws (Hey's and Fergusson's), "lion" forceps, long bone forceps, actual cauteries, or Bruce's gas ditto, ligatures,

Fig. 1.

Fig. 2

copper spatulas, oil of turpentine, or "styptic colloid," numerous pledgets of lint with strings attached, lint to support the cheek, chain saws, metallic wire for sutures, surgical needles, sponges, brandy, carbonate of ammonia, pieces of ice and iced water, suitable drinking cup, &c., &c.

Case II.—*Excision of right half of Inferior Maxilla for large Epulis.*

Hugh S—, a countryman, aged fifty-seven years, was admitted into the City of Dublin Hospital on the 3rd of November, 1866, suffering from a large Epulis, involving the right side of the lower jaw and sub-maxillary gland. He gave the following history of the disease from its commencement:—

Nine months ago he noticed a little sore like a blister inside his lower jaw corresponding to the first molar tooth. He fancied it was caused by a decayed tooth, and had one extracted by his medical attendant, who kindly referred him to me. Subsequently a second tooth was drawn. In a short time a small tumour appeared where the blister was, and when smoking his pipe a little blood came, which he thought was "sucked out" by the smoking. Latterly the "lump" had a bad taste, and he felt a scalding pain in his jaw. The tumour gradually increased in size; his appetite failed, and he slept badly.

Condition of Patient on admission to Hospital.—Face pale, but not presenting the cancerous cachexia. Right side of lower maxilla very much enlarged about the angle. The tumour extends into the digastric space, and occupies the greater part of the body of the jaw (see Plate III., Fig. 2). On opening the mouth a vascular red and firm tumour is observed extending from the right side of the symphysis to the last molar tooth; it is hard, and bleeds on being touched. Patient says he does not suffer much pain.

A microscopic examination of a small portion of the tumour proved it to be epithelial.

I explained the nature of the disease to the patient, and submitted his case to my surgical colleagues for consultation.

It was decided that he should get the chance afforded by excision of the entire right half of his lower jaw, which he willingly consented to; and accordingly, with the able assistance of my colleagues—Professors Hargrave and Geoghegan, and Mr. Tufnell—and in the presence of several medical men and a large class of pupils, I proceeded as follows:—The patient was seated

in a large strong arm-chair used for these operations, and tied in the following manner:—a piece of padded board was placed across his thighs, and lashed to the chair so as to prevent his moving; the hands and arms were also secured.

The following instruments and appliances were at hand:—Spray producers (with *special ether*); scalpels; chain saws (2); Fergusson's saw; L'Estrange's bone forceps; artery forceps; needle, armed with stout ligature to draw forwards the tongue; double tenaculum; probe-pointed bistoury, and probe-pointed scissors; actual cauteries; sponges, brandy, carb. of ammonia, &c., &c.

The patient's head was supported against an assistant's breast, who stood behind the chair. Mr. M'Clean extracted the tooth.

The anesthetic fluid was applied, with two spray producers to the lower lip until the parts were sufficiently frozen. I commenced by making an incision with a scalpel from beneath the red margin of the lower lip to beneath the symphysis, and from that point I made another incision to the angle of the jaw, keeping up on the bone to avoid retraction of the facial artery into the submaxillary region. A probe armed with a double ligature was passed beneath the facial artery before dividing it, and having tied the vessel above and below I divided it *between* the ligatures. The flap having been raised I partially divided the symphysis with the small saw, and then having made an opening beneath the chin into the mouth I passed in the curved blade of L'Estrange's forceps, and with one stroke of this excellent instrument divided the bone with the greatest facility, and without any splintering. I next proceeded to dissect the jaw and tumour from the floor of the mouth, keeping as close to the bone as practicable. This having been completed, I dissected down into the digastric space, exposing all the important contents of that region, and with the handle of the knife, and careful manipulation, detatched the entire mass without loss of blood. The masseter muscle was next cleared from the bone, and the incision prolonged to the temporo-maxillary region. I grasped the divided symphysis for the purpose of facilitating the removal of the head of the bone from the glenoid cavity, but the jaw fractured near the angle, thus embarrassing the most difficult step of the operation—namely, the disarticulation. By a cautious touch of the scalpel I opened the anterior part of the capsular ligament, and with a probe-pointed scissors divided the insertion of the temporal muscle into the coronoid process. This being accomplished, I hooked out on

my finger the head of the bone, and cut the insertion of the external pterygoid muscle, and finally detached the internal pterygoid. At this stage of the operation the tongue was inclined to slip backwards, and I immediately drew it forwards with a double tenaculum, and transfixed its tip with the needle, ready armed for the purpose, with a stout ligature, and gave it in charge to an assistant. The mouth was kept clear of blood by raising the patient's head, and turning it to the right side, thus favouring the escape of blood, and a stream of *iced* water was poured through the mouth from the left side, which was of great use in checking the oozing from so large and vascular a surface; it, moreover, had the effect of preventing the blood passing backwards, which, from the altered position of the tongue would be highly dangerous.

The wound having been sponged out, and the tongue allowed to pass gently backwards, some brandy and warm water was given before completing the operation. A few small vessels required ligature.

The actual cauteries were not required, and the edges of the incision were brought into apposition with interrupted iron wire sutures. A piece of oiled lint was put inside to support the cheek. The patient was carried with "poles and sheet" and placed in his bed, with warm applications to the feet.

The tongue was kept gently forwards by an assistant, and a full-sized catheter having been introduced into the rectum, stimulants and beef-tea were thus administered; small pieces of ice were put into the mouth.

The patient was visited repeatedly during the day, and although he lost very little blood, he seemed to have suffered considerably from the shock of the operation.

Nov. 7.—Pulse feeble. Patient takes wine and beef-tea and ice; nutritious injections continued; he finds great difficulty in swallowing; lint removed, and the ligature taken from the tongue.

Nov. 8.—Wound looks healthy; water dressing applied; mouth injected with solution of permanganate of potash in tepid water.

Nov. 9.—The right eye permanently open consequent on division of portio dura as it crosses the jaw. Patient takes his nourishment, and sleeps.

Nov. 12.—Rigor.

Nov. 13.—Erysipelatous blush on nose and cheek; pulse quick; wound has healed almost in the entire length; erysipelatous surface

smeared with diluted ung. hyd., and the part covered with raw cotton; bowels freed by enema, and muriated tincture of iron with whiskey prescribed.

Nov. 14.—Erysipelas has extended to forehead and eyes. He took eggs beaten up with whiskey frequently during the day, and a liberal supply of strong beef essence and whiskey.

Nov. 15.—Right half of tongue enormously swollen, evidently from erysipelatous inflammation; an incision was made into the tongue on the upper surface which gave almost immediate relief.

From this date the erysipelas gradually disappeared, and the cuticle desquamated.

The patient got up and went about the ward, but appeared to pine away. Although he took nourishment freely, he gradually sank, and died.

CASE III.—*Successful removal of the Symphysis and considerable portion of the body of the Lower Jaw almost to the Angle, at each side, for Necrosis, without External Incision—No Deformity.*

James W—, a clerk and traveller, aged twenty-nine years, had a severe attack of syphilis five years since, in America. His mouth was made very sore by taking a mixture which had a most disagreeable taste (probably the bi-chloride of mercury). He caught cold whilst under the influence of the medicine. Had nodes on the tibia afterwards, and suffered very much from pains in his head. When his health recovered sufficiently to allow him to undertake the journey home he went to Liverpool, and then (about two years since) he noticed a numbness in his chin which prevented his being able to shave. He applied to a medical practitioner, who treated him for neuralgia. His chin became swollen, and his gums got sore. He thought he was getting gumboils. He left Liverpool and got employment in Manchester as clerk in a paper warehouse.

An abscess formed on the right side under the chin; he went to a surgeon and had it opened. Another abscess formed at the left side, and afterwards a series of them gathered under the chin along the angle of the jaw at each side.

The pain increased, and was always worse at night. The discharge was profuse and fetid. He perspired copiously. His appetite failed, and he could not work. He returned to Dublin, and lost two incisor teeth a couple of days before I saw him.

Condition of Patient when admitted into Hospital under my care.—

Face pale and emaciated; his limbs and body are wasted; chin prominent, and exquisitely tender to the touch. Probe passed in through openings, touches dead bone. A number of sinuses, with bright papillæ, are observed from the symphysis to the angle of the jaw at either side. Fetor from breath. On opening his mouth, I observed that two incisor teeth and one molar were gone, and on manipulation six were found loose. Fetid pus wells up between the lower lip and alveolar process. I explained to the patient the nature of his case; proposed operation, which he consented to, having suffered long and got no relief.

Operation.—January 27.—Patient having been seated in the stout arm chair, and fixed in it, I drew down his lower lip and detached the structures freely from the symphysis and body of the jaw, keeping close to the bone. I was thus enabled to remove the large sequestrum through the mouth. There was very little hemorrhage.

The patient's health became rapidly restored; he slept well. The space left by removal of bone filled up rapidly with granulations, and he left the hospital in excellent health and spirits in three weeks, without a trace of deformity.

Mr. F. M'Clean, junr., dentist to the hospital, made him a set of artificial teeth. The accompanying lithograph (see Plate III., Fig. 1), taken from a photograph, will show his appearance after operation.

From the history of the foregoing cases, and the details of the operations performed for the removal of the diseased structures, I consider that the following practical conclusions may be summed up in the form of aphorisms, viz.:—

Case I.—*Excision of Superior Maxilla.*

A morbid growth of twenty years' duration in a healthy young subject not likely to be "malignant."

Such diagnosis is confirmed by exploration of antrum with strong small trocar and microscopic examination of contents.

"Myeloid" growth, resembling fibrous tumour, enclosed in the antrum, expands its walls, and involves the periosteum.

Such growth not liable to recur after excision.

Partial excision inapplicable in this form of disease in consequence of its periosteal attachments.

The entire upper jaw can be excised through a single incision, extending from the internal canthus along the side of the nose,

and through the filtrum, leaving scarcely a trace of deformity, thus avoiding hemorrhage and other evil consequences which should result from division of the cheek.

Hemorrhage not to be apprehended if the operation be judiciously performed; and, consequently, the proposal to ligature the primitive or external carotid artery, preliminary to operation, can never be necessary. The knife should not be used except in the first steps of the operation, the tumour to be removed by evulsion with the "lion" forceps, the vessels being consequently torn, don't bleed.

Speech is gradually restored, and the space left by the removal of the jaw is filled up within a short space of time.

Extent of deformity, subsequent to an operation of such magnitude, is remarkably trifling, if performed by the single incision described in this case.

Case II.—*Excision of half the Lower Jaw.*

Extensive incisions are required for the removal of the lower jaw from its articulation, the first commencing below the red margin of the lip and terminating under the symphysis, the second extending from the symphysis to the angle of the jaw (on a line above the lower margin of the bone, to avoid retraction of the facial artery into the sub-maxillary space), and from that point to the anterior surface of the temporo-maxillary articulation.

The facial artery can be readily tied by passing an eyed probe, armed with a double ligature, beneath it before division.

A tooth having been extracted, the symphysis is to be partially divided by a small saw, and the section completed from below by a bone forceps, or by the chain saw.

After section of the symphysis the dissection necessary to detach the jaw from the inside of the mouth must be very carefully made by keeping the knife close to the bone to avoid as much as practicable the falling backwards of the tongue, and the consequent danger of suffocation by closure of the windpipe. So serious an occurrence must be anticipated by passing a stout ligature through the apex of the tongue, and entrusted to an assistant to keep it drawn forwards.

The temporo-maxillary articulation must be opened on its anterior surface, and the operator should keep the edge of his knife very close to the bone to avoid wounding the internal maxillary or external carotid artery.

In such case as No. III., the efforts of nature requiring surgical

assistance, the sequestrum can be removed by operation through the mouth without external incision, and, consequently, without leaving deformity.

In conclusion, I may add that I am not in favour of chloroform in jaw operations, for unless complete anesthesia be produced it can be of but little value, and by interfering with the voluntary act of deglutition life may be endangered by allowing blood to flow into the windpipe.

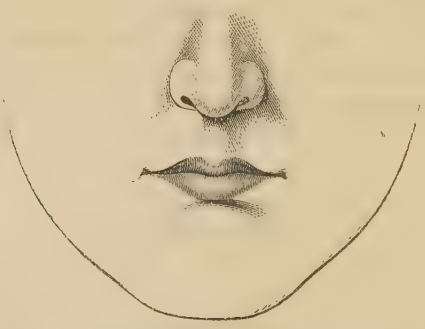
ART. XI.—*The Æsthetic Treatment of Hare-Lip, with a Description of a new Operation for the more Scientific Remedy of this Deformity.* By MAURICE HENRY COLLIS, M.D., Dubl.; F.R.C.S.I.; Surgeon to the Meath Hospital, and Co. Dublin Infirmary, &c.

[Being the substance of a Paper communicated to the Obstetrical Society, December, 1866.]

THE natural condition of the upper lip in its perfect state is as follows:—

Its free margin has the waved outline to which the name of "Cupid's Bow" is given. Its depth is greatest in the centre. Its margin is connected with the inner margin of each nostril by a curved line. These curves, and those of the free margin, correspond, or have a relation to one another; thus, if the lip be full and freely curved, the lines which pass up to the nostrils will likewise be freely curved, and will include a larger portion of lip than when the margin of the lip is almost straight. In this latter case, the lines referred to are also straight or nearly so. The upper lip may, therefore, be fairly divided into a central and two lateral portions, joined by curved lines (Fig. 1).

Fig. 1



The fissures of hare-lip always correspond to this division.

In the double hare-lip, the fissures cut off the central portion along the curved lines referred to. In the single hare-lip, the central portion remains attached to one side and detached from the other, the curved line being still traceable on the larger portion.

These are anatomical facts of some importance, both in a surgical and *æsthetic* point of view. Almost from the time of my student

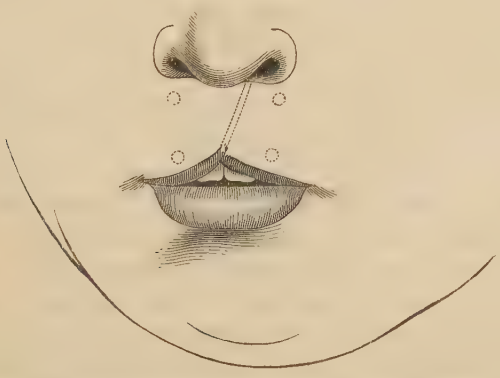
days I have considered the ordinary operation for hare-lip to be deficient in a due regard to the natural condition of parts, and I have followed with interest many efforts made by distinguished surgeons to improve it. Let me first state wherein it is deficient.

The ordinary directions are—first, to divide the frena, true and false, to the fullest extent. Secondly, with knife or scissors to pare the edges, cutting away the rounded corners freely. Some surgeons make these incisions straight, others make them curved with the concavities facing each other.

The evil of dividing the true frenum is that the lip is thrown out of gear, and one of the best means of bringing the distorted nostril into its proper place is sacrificed.

The incisions, whether straight or concave, must result in a straight cicatrix, whereas there can be no doubt that the cicatrix ought, if possible, to follow the curved line which runs, in the natural condition, from the nostril to the margin of the lip. Further, the loss of substance along the margin of the lip is considerable by this method. Hence the resulting lip has a tight margin, which is drawn up by the gradual contraction of the cicatrix, so that ultimately its outline, instead of a graceful wavy line is made up of two straight lines, which at their point of junction allow a tooth to be seen. The contraction of the cicatrix not only tucks up the lip at that point, but it also renders the lip thin along the line of cicatrix, whereas it ought to be thicker and more full along that line than elsewhere. In fact, in place of a curved ridge, we get by the ordinary operation a short depressed straight line, with a lip tucked up in or near the centre (Fig. 2).

Fig. 2.



Such are my objections to the common operation.

One of these is remedied by the operation known as Malgaigne's or Sédillot's, which I learned twenty-one years ago from a fine old English surgeon, the late Samuel Smith, of Leeds. He told me then that he had devised it some twenty or thirty years previously. Whether he ever published it I do not know. This improvement consists in reserving the lower portion of the parings at each side, and turning them downwards so as to form a prominence along the margin. This manifest improvement gave me the first idea of my operation. For some years I was content with it, but by degrees I have added one thing and another to it until I have brought it to a point of perfection, that I am not afraid to challenge attention to.

The rules for my operation are:—

1st. Never to interfere with the true frenum. It is not only unnecessary to divide it, but most pernicious.

2nd. Freely to divide all false frena, and if the alar cartilage is misplaced, let the incisions separate it freely so that it may be fairly drawn into its proper place.

3rd. Never to attempt to close the lip so long as the inter-maxillary bone is misplaced to any extent.

4th. To preserve and utilize all the parings. They are all wanted, as they all have their proper place; to this point I will revert at length.

5th. To use interrupted sutures, and discard all pins or needles as far as possible.

6th. To leave the line of union exposed, using no dressings or plasters for some days.

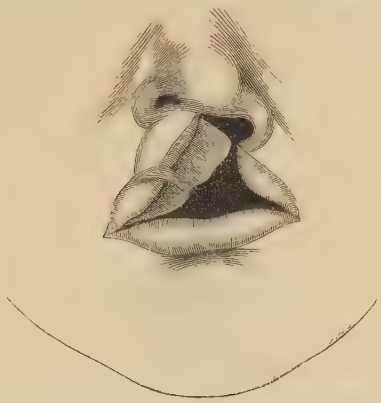
And now to justify these rules:—

1. I never divide the true frenum. Its obvious use is to steady the lip, to prevent muscular action from drawing the centre of the lip away from its proper place. Let any one with his finger or tongue try on his own lip what the uses of the frenum are, or cast a glance on Fig. 3, which represents a case of hare-lip with the soft parts somewhat everted, and the intermaxillary portion much misplaced, and he will see at once what I mean. The division of the frenum unsteadies the lip, makes it tend to run into a string, and, in many cases, leaves a permanent fistula into the nostril. It is, moreover, quite unnecessary, as the parts can be brought into perfect apposition without meddling with it.

2. I freely divide all adhesions or false frena, and I subcutaneously separate all attachments of the ala nasi to the bone which interfere with the proper formation of the nostril. The advantages of this are so obvious that I need not dilate upon them.

3. Before paring the margins, the intermaxillary bone should be placed exactly in the centre, if not so already. Where there

Fig. 3.



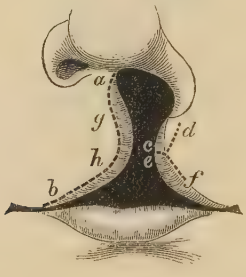
is fissure of the hard palate there is always this displacement. I generally manage this part of the operation by detaching the bone on the sound side by means of a narrow gouge. A strong forceps, with the blades protected with chamois leather, will then force the bone into position. As the nutrient vessels run along the mucous membrane, and chiefly on the inner surface, the gouge is the best instrument for loosening the bone. It may be used freely in this subcutaneous or submucous fashion; in fact, the more freely the bone is loosened the more easy is it to get it into position. The instrument has the advantage of being efficient and

Fig. 4.

simple; no small recommendations now-a-days. The parts will then present the appearance seen in Fig. 4.

4. I never throw away a particle of the parings. My incisions are made so as to make every fragment of them useful. On one side they are preserved to make the lip thick, and on the other to increase its depth. The method is somewhat complex, but a reference to Fig. 5 will make it intelligible. When dealing with single

Fig. 5.

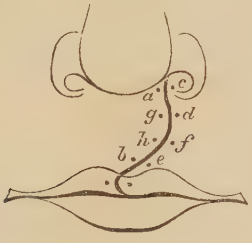


hare-lip, I take the larger portion, that which includes the middle bit, and pare it freely from the nostril round the margin, from *a* to *b*, until the point of the knife comes opposite the frenum. This incision goes through all the tissues of the lip except the mucous membrane. It follows the curved line of the margin of the fissure, and leaves a long wound, which is curved towards the fissure. The flap is left loose, and attached only by mucous membrane. On the other or smaller side of the lip, where we generally find the tissues thin, especially as we approach the nostril, the treatment is quite different. I transfix the lip at *d*, close to the nostril, and carrying the knife along parallel to the margin, as far as *f*, I detach a moderately broad flap, which I leave adherent above to the ala nasi, and below to the free margin of the lip well beyond or external to the rounded angle at the fissure.

This flap, which (unlike the one at the opposite side) comprises all the tissues of the lip, is now divided into two at its centre (*c e*). I thus get two loose flaps, a superior (*c d*) attached to the ala nasi, and an inferior (*e f*) hanging on to the free margin of the lip. The loose end of the upper flap is turned up so that its raw surface faces the wound in the opposite side of the fissure, and the loose end of the lower flap is similarly turned down. The point *c* is brought up to *a* and fastened there. The point *e* is brought down to *b* and fastened there. I have thus got on the small side of the lip a wound as extensive as that on the larger side. The upper flap

completes the outline of the nostril. The lower one supplements the outline of the free margin of the lip. I thus get a lip nearly double in depth what I could possibly have got by the ordinary incisions (Fig. 6). I shall revert to the treatment of double hare-lip further on.

Fig. 6.



5. I use, as a rule, sutures of horse-hair, as being less cutting than wire and less irritating than silk or thread. Pins, except very fine insect pins, I have discarded. Even these I use but rarely. A well-tied suture holds the parts together with sufficient firmness. It can be removed at any time, whereas the pin must remain until it becomes loosened in its bed by suppuration; hence the mark of a suture is trifling compared with that left by a needle or pin. The spot which requires a pin most frequently is the ala of the nostril. It tends to revert to its old position with more force than the lip, and it often needs the stronger pull of a pin.

I generally insert the upper suture first, then the one close to the line of junction of the red and white, then the two invervening sutures, in the order that seems most suitable in each case. Sometimes I have inserted a suture on the inner or mucous surface of the lip. Sometimes this is not necessary. Generally I put a fine suture just along the free margin to keep the lower flap in its new bed until it contracts adhesion there.

The sutures are removed, one after another, those near the margin first, the upper two last. As to time of removal much will depend on the age of the child, and on the firmness of its flesh. Thus in a strong child a suture may be left three or four days, while in one more delicate it may have to be removed in forty-eight hours. Sutures should never be left long enough to ulcerate.

6. By this treatment of the sutures, plasters and dressings are dispensed with until some days have elapsed. They are applied only when the sutures are removed, and with a view to prevent the lip

from thinning. I generally find that all the wound heals by first intention, and the presence of plasters rather interferes with this process, at least so long as the sutures are left. When plasters are used they have to be removed when we wish to inspect the lip, and their removal disturbs the delicate process of union. By leaving the lip uncovered we can watch the progress of the cure, and it is easy to apply a strap at any moment if it be really needed. The use of Hainsby's truss will, in most cases, make it quite unnecessary to use plasters of any kind. Collodion is sometimes useful, but it should be made very thick. The ether in thin collodion acts injuriously on the healing process.

As to the age for operating, I have done so successfully in a child under three weeks, and I have seen others of twice as many months in whom I refused to operate. The question is entirely one of the strength of the child, and the firmness of its flesh.

With regard to complicated double hare-lip (Fig. 7), the first point to be attended to is, in like manner, the strength of the

Fig. 7.

child, which, as a rule, is far below par. When, by careful feeding, this has been brought up to a proper state, the protruding inter-maxillary bone has first to be replaced. It should never, under

any circumstance, be removed. This is, in fact, so well established an axiom of surgery, that it need not be insisted on. It is not always easy to bring it into its proper site. There are three methods to choose from; one is to separate it completely from all bony attachments, and to leave it for a time pendulous, adherent only to the central portion of the lip. This is the best way when practicable. The second is to take a V-shaped piece out of the vomer. The third is a new method which I have tried, and which has the advantage of helping materially to lessen the gap in the palate. It consists in cutting off an oblique portion of the vomer along with the inter-maxillary bone. Whichever method is adopted, the bone is best left undisturbed for a few days after this stage of the operation. Nothing is more fatal to success in these cases than the effort to do too much at a time. A few drops of ether will sufficiently anesthetize the child to prevent its being frightened by repeated operations; success of the highest kind can only be obtained by doing the operation bit by bit. It is easy no doubt to conclude all at one sitting—but not to conclude all well. I therefore advise that, as a rule, the bone when detached in any of the above methods, should be left undisturbed for a few days before any attempt is made to push it back or retain it in its new position. Yet if it goes back easily, the remainder of the operation may be done at one sitting.

Fig. 8.

I treat the middle bit of skin as in simple hare-lip, paring its margin in a curved manner, and leaving the parings attached by the mucous membrane; the outer portions are treated exactly as in single hare-lip, and the sutures are practically the same. In double hare-lip they are best inserted, and tied from below upwards. The amount of the central portion which can be made to contribute to the lip, is never very great, and the strain on the upper portion of lip is often very considerable. In these cases the use of Mr. Hainsby's truss is of the greatest service.

It is surprising how beautifully the flaps, made after my method, fall into and fill up the places intended for them; how naturally the form of the nostrils is restored, and the curves of the lip. The faithful woodcuts of Mr. Oldham show the perfection of outline, and the great increase in depth of the lip as contrasted with the results of the old operation (Fig. 8).

In conclusion, I recommend this improvement in plastic surgery to the kind consideration of my professional brethren. I am satisfied that when tried it will be found a real advance in operative surgery, and one that all will confess was much needed in this department.

I shall give one case, out of many, as a sample of the results of my method of operating. It was further remarkable as an example of the ease with which fissures of the palate can be treated under chloroform. We have been in the habit, in Dublin, of using chloroform freely in all operations about the jaws, mouth, or fauces, and for at least three years I have done all my cleft palates under chloroform. It gives great facility to the operator, and is not dangerous to the patient, unless by culpable negligence. By means of it we can operate on infants and children. For my own part I prefer not to operate on the palate before the age of four or five years; the tender tissues of younger children scarcely bear the strain of sutures, or the preliminary manipulation with forceps, and raspatory. But from the fourth or fifth year there is no such objection, and, if practicable, the operation should not be deferred beyond that age. It suffices to chloroform the child deeply at first, and to let it come to a semi-conscious state. I have hitherto found children in this condition perfectly amenable. They seem to hear, and they obey our directions about the position of the head, the keeping of the mouth open, and the emptying of the mouth; and they do not feel either pain or discomfort. A few drops of chloroform, or chloroform and ether, now and then, will keep up this condition for any reason-

able length of time. The blood is either spit or sponged out, or quietly swallowed. I have never seen it get into the larynx, nor can it well do so, as it is guided away from it by folds of membrane leading from the epiglottis backwards. The fauces should be well sponged as theoperationgoes on,otherwise the blood mayclot there, but there is no difficulty in doing so. A piece of elastic riband along the back of the neck with blunt hooks of double wire at either end will keep the mouth open, aided by the handle of a spatula or any roughened piece of wood as a gag between the teeth. I have operated seven times under chloroform, and my friend, Mr. Smyly, has also used it; we have never found any inconvenience from its use, and, in our opinion, it greatly facilitates the operation. The patient lies quietly on the operating table, and the surgeon standing at his right side is able to show the steps of the operation to the class as he goes along.

Case of Single Hare-Lip, with Cleft Palate and Displacement of the Intermaxillary Bone.—Pat Mulveagh, under five years of age, was sent up to me from Virginia, in Co. Cavan. He had complete congenital fissure of the palate, extending through the alveoli, and complicated with hare-lip on the right side. The intermaxillary bone was much displaced, its edge projected forward through the fissure in the lip, and the gap between the bones was wide enough to admit the little finger. He was a fine healthy boy, with fair intelligence, but subject to uncontrollable fits of passion, in which he would obstinately refuse to open his mouth for inspection, and which were frequently brought on by asking him to do so. This was the result partly of fear and partly of his having been made fun of by his playmates for his appearance and mode of speech. By degrees we got him cured of this, mainly through his losing all fear of pain, as a result of the chloroform.

On the 9th day of August, 1867, in the presence of a number of members of the British Medical Association, I operated on his palate under chloroform. I selected a modification of Mason Warren's operation, and had every reason to be satisfied with it.

Making a small incision in the muco-periosteum near the first molar tooth, I pushed in Langenbeck's straight raspatory between the soft tissues and the hard palate so as to detach all the soft tissues from the bone, posterior to a line drawn from the first molar of one side to that of the other. With this instrument I detached all the

muco-periosteum on each side as far back as the posterior margin of the palate bones, and inwards to the margin of the cleft; the instrument brought down some of the soft covering from the upper or nasal surfaces of the bones, so that I had ample material without tension. A stroke or two of the curved scissors, along the margin of the palate bones, divided and paralysed, for the time, the muscles at the back of the palate as they were stretched over the bones by the falling down of the flaps. The margins of the soft palate were

Fig. 9.

now pared, and any points along the loose flaps that seemed to require it were similarly trimmed. Sutures were inserted of horsehair to the number of seven.

The soft palate, except a small point at the tip, united, and a considerable piece of the hard, so much so that it was evident that the replacement of the misplaced intermaxillary bone would all but close the remainder.

On the 6th November I put a couple of stitches in the soft palate, and then operated on the lip in the manner detailed in this paper. First, I separated the intermaxillary bone with the gouge. Secondly, I divided freely the false frenum, and detached subcutaneously the ala of the nostril from the bone. Thirdly, I pared the

margins exactly as figured in the plates, and lastly, I inserted the sutures, and drew the parts together.

On the 3rd day I removed one suture; on the 4th another; and on the 6th the rest.

The result after a month is well shown by the photograph. I specially call attention to the depth of the lip from the nostril to the prolabium or margin, also to the curved outline of the cicatrix and to the good form of the nostril.

The photograph was taken when the scar was still new, and the

mark of the cicatrix is much plainer than when the boy left hospital for his home. This is of set purpose, as I wished the line of the cicatrix to be perceptible. Had I waited another month to take the photograph, there would have been no trace of it, and though the result would have been perfect as a picture, it would not have so well served the purpose I had in view, of rendering my mode of operation intelligible.

ART. XII.—*Contributions to the Study of some Thoracic Diseases.* By JAMES CUMING, M.A., M.D.; Professor of Practice of Medicine, Queen's College, Belfast; Physician to the Belfast General Hospital, etc.

I.—*Case of Aneurism of the Thoracic Aorta. Fatal Termination by Rupture into the Trachea. Tracheotomy Thirteen Days before Death.*[a]

James Sterling, aged thirty-eight, labourer, married, was admitted into the Belfast General Hospital, January 25th, 1868.

Family History.—The patient and one sister are the only surviving members of a family of seven, the others having died young. Father died of fever; mother of dysentery.

History.—He has always been temperate and healthy; has never had syphilis. He was engaged at easy work until lately, when he got employment in a ship-yard. Here he was often obliged to lift and carry heavy weights. He was engaged about seven weeks in this employment, when he began to notice a whistling in his breathing, and to observe that his breathing became difficult when he carried heavy burdens. The whistling at first was observed only during expiration, but afterwards with both inspiration and expiration. The sound became gradually louder, and was increased by exertion and by going into the cold air from a house. The first symptoms of noise and difficulty of respiration were noticed about the end of December.

Present Symptoms.—The respiration is distinctly but not loudly stridulous, and there is no dyspnea when the patient is perfectly quiet. On the slightest exertion, however, such as sitting up or turning in bed, the stridor becomes loud, and distressing dyspnea is felt, which is still further increased by walking, and the stridor becomes audible at a considerable distance from the patient. The dyspnea is not influenced by position. He has a troublesome cough, which has nothing peculiar in its sound, and a scanty glairy expectoration. Tongue clean, appetite good, bowels regular; he sleeps pretty well; pulse 75, when quiet and in the recumbent position, but greatly accelerated by exertion. The patient is pale, and has an anxious expression, but is tolerably stout and well nourished, although he states that he has latterly lost flesh; voice slightly husky, but not impaired in strength.

[a] Reported by Mr. Andrew Hegarty, Clinical Clerk.

Fig. I

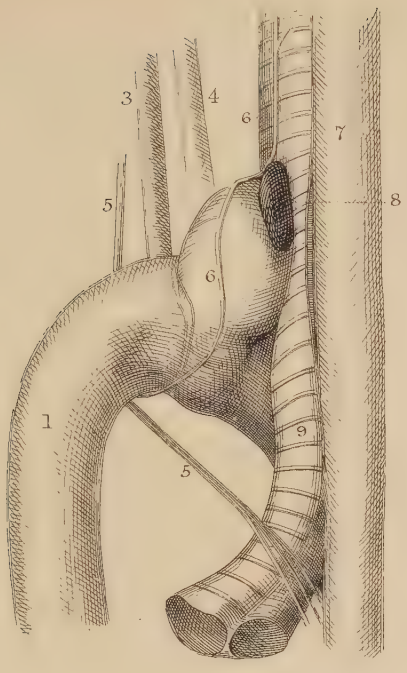
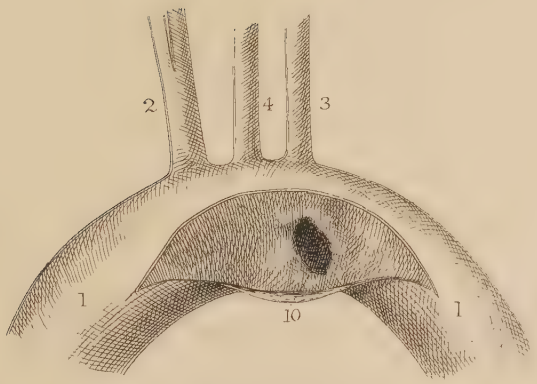


Fig. II



DESCRIPTION OF PLATE.

Fig. I.—The descending aorta, and a portion of the arch are turned aside to expose the aneuris
Fig. II.—The aorta laid open to show the opening into the sac.

The numbers refer to the same objects in both figures:—1, aorta ; 2, innominata ; 3, subclavia 4, carotid ; 5, pneumogastric of left side ; 6, recurrent nerve of same passing over the aneurism a branch from this nerve is seen passing to the deep cardiac plexus ; near it is a small filam from the sympathetic to the same plexus ; 7, œsophagus ; 8, an enlarged bronchial gland : 9, trach 10, opening into aneurismal sac.

Physical Examination.—A prominence is observed at the junction of the second rib with its costal cartilage, and the sternum is somewhat convex and bulging at a point corresponding to this. No thrill or pulsation is perceptible; percussion over the prominence elicits a dull sound, but only when the stroke is made on the side furthest from the sternum; every where else the sound is quite normal; on auscultation the stridor seems loudest at the sternal notch; no difference in the respiration can be noticed on examining the two sides. There is a slight prolongation of the first sound at the base of the heart, hardly amounting to murmur. With this exception there is no abnormal sound to be detected. I made a laryngoscopic examination, but the patient did not bear the mirror well, and the attempt was productive of so much dyspnea that it was not repeated; as far as it was seen the larynx seemed healthy.

He seemed much benefited by the application of a couple of leeches to the trachea every alternate night, and by a little paregoric. Complete abstinence from exertion was enjoined.

February 21st.—Some streaks of blood were observed for the first time in the sputum, and a little was noticed occasionally during the subsequent fortnight, the quantity never exceeding a few drops in the day. I ventured to make the diagnosis of aneurism, and in a clinical lecture delivered at this time on this and two other cases of aortic aneurism which happened to be under my care in hospital at the same time, I drew the attention of the students to the positive and negative results which the examination of the patient gave us.

1st. Prominence and slight dulness at a particular part of the chest

2nd. Stridor and dyspnea of recent origin, and greatly aggravated by exertion.

On the other hand we had total absence of auscultatory signs, of pain, of characteristic cough, of any marked alteration of voice, of dysphagia, of inequality of the pulses or of the pupils, and of any venous congestion. With regard to the prominence and dulness, I attached little weight to its presence, as there was no pulsation or thrill or bruit detected over it, and I based the diagnosis mainly on the symptoms of dyspnea and stridor, the larynx being free from disease, and the probabilities being greatly against tumour, owing to the age and health of the patient. I ventured also to say that the aneurism must press upon the trachea itself in consequence of the respiratory sounds being equal in both sides. I suggested that possibly the hemoptysis might depend on a very minute

perforation, as had been observed in some cases, and that an early and rapidly fatal issue was to be apprehended. The further progress of the case may be briefly recorded.

March 3rd.—The attacks of dyspnea, which, being previously only aroused by exertion, had now begun to appear without any apparent cause, and were of a very severe character. They occurred usually in the evening, and distressed and alarmed him very much; but they did not occur oftener than once in the twenty-four hours, and a day sometimes passed altogether without any of them supervening. I spoke to him of the possibility of tracheotomy becoming necessary during some of these attacks; however, he naturally objected very strongly to the idea.

March 4th.—After a quiet night he seemed at visit to be tolerably easy. Before I left hospital, however, I was summoned by a nurse to see him, and found him in a deplorable condition, gasping for breath, making desperate efforts to get air into the chest, the lips livid, the skin covered with cold sweat, the pulse rapid and feeble, and the stridor accompanying the respiration of the loudest description. When he saw me he said that his heart was breaking. Several members of the staff who happened to be in hospital came to see him, and agreed that tracheotomy was urgently required to avert the imminent danger of suffocation. While we were speaking he suddenly exclaimed "Thank God! I am better," and for a few minutes seemed relieved, but the dyspnea returned with increased severity, and it was clear that he could not survive any prolongation of his terrible sufferings. He consented to the operation, which was performed by Dr. W. MacCormac, assisted by Dr. Murney, and in the presence of Dr. Smith and of myself. The breathing became at once easier, but there was still a good deal of dyspnea, which continued during the night. He was able, however, to lie down and was much relieved. He was placed in a small ward, and the air was kept saturated with the vapour of boiling water.

From this period he had no suffering whatever from dyspnea. There was some cough and expectoration of a bronchitic character for a few days owing to irritation of the air passages. He had a little morphia at night and slept well. His appetite was fair, and he was easy and comfortable, and expressed himself hopefully as to his recovery. He was able to get up and sit at the fire without any distress from the exertion, an effort which, during the previous month, would have brought on severe dyspnea.

On the morning of the 23rd I entered the ward accompanied by

Dr. Henry Brown and some students. He expressed himself as being very well, and was anxious to be allowed to go to a larger ward, in which he had been previous to the operation, so as to have the society of the other patients. While speaking a few drops of blood came from the opening in the trachea, which he wiped away, remarking that this was the first blood that had appeared since the operation. In a moment a gush followed; he coughed up a large quantity, which came both through the mouth and through the opening; the breathing was accompanied with a loud gurgling sound, and after a few minutes of this frightful scene, which seemed horribly long, he was dead, the heart continuing to beat for some time after respiration had apparently altogether ceased.

Post mortem.—The body was plump, and a good deal of subcutaneous fat existed. The lungs were found to contain a large quantity of blood in the air cells and bronchi, and collapsed very imperfectly. An aneurism was found pressing upon the left side of the trachea, and springing from the posterior part of the transverse portion of the arch of the aorta, below and beyond the origin of the subclavian artery. The parts were removed and were dissected with great care. The aneurismal tumour, which was about the size of a large walnut, and which is figured in the accompanying plate, had produced a considerable amount of pressure upon the side of the trachea, and had caused a projection into it which diminished its calibre considerably. There was an opening into the trachea through which a No. 4 catheter could be passed. The recurrent nerve of the left side, as well as a branch from it to the deep cardiac plexus, was found to be compressed, diverted from its course, and closely adherent to the left side of the tumour. Another small nerve, from the sympathetic, going to the same plexus, was also found adherent to the aneurism, and is figured in the plate. On the right side of the tumour a large cardiac branch of the right vagus seemed to have suffered also, but to a less degree than the recurrent. It was thickened, adherent to the tumour, and was probably pressed upon by it. The interior of the aorta showed a considerable amount of atheroma, especially in the neighbourhood of the opening into the sac. The parts beneath the prominence which had been observed during life were examined, and it was found that no cause existed within the thorax for the bulging. It had been probably brought about by the action of the scaleni, being more forcible than usual in consequence of the difficulty of breathing, or it was perhaps of congenital origin.

Observations.—The points of most interest in this case are:—

Firstly—The possibility of arriving at a correct diagnosis of aneurism from symptoms in the absence of any physical sign derived from the organs of circulation. The case resembles closely one related by Professor Gairdner, in his work on Clinical Medicine[a]—a work to which the profession is indebted for much valuable information on this interesting and difficult subject. In Dr. Gairdner's case the patient died from suffocation, notwithstanding the performance of tracheotomy, the aneurism remaining unruptured. This termination was caused by the refusal of the patient to submit to tracheotomy at an earlier period, and I have no doubt that a similar termination would have occurred in my case had the operation been much longer deferred.

Secondly—The interesting practical fact of the great relief which was afforded by the tracheotomy. Not only were the urgent symptoms which threatened speedy dissolution at once mitigated, but the patient had the inexpressible comfort of being completely free from the distressing dyspnea which every exertion had caused. He passed the remaining days of his life in what might be relatively considered ease, the suffering from the wound in the trachea being quite inconsiderable. He was able to get up and sit at the fire for some hours daily without any suffering being caused by the necessary effort, and in all probability his life was somewhat prolonged, for the exertion which the paroxysms necessitated might have brought about an earlier rupture.

Thirdly—The almost complete integrity of the vocal functions while the respiratory functions were so seriously interfered with, and the recurrent laryngeal subjected to so much pressure. That laryngeal spasm was induced by exertion is evident, and it is difficult to get a satisfactory physiological explanation of why the voice was not to any considerable extent impaired. The slight huskiness which was noticed was not greater tha occurs in cases when cough has existed for some time.

Fourthly—The interference with the nerves going to the cardiac plexus. It is possible that this may be in some cases the cause of the symptoms resembling angina, and of the disturbance of the circulation, which have sometimes been observed in connexion with aneurism. This interesting physiological point is only capable, however, of being worked out when the influence on the movements

[a] Case I. p. 455.

of the heart possessed by the vagus and the sympathetic system is much more clearly known than at present.

Fifthly—The explanation of the dyspnea and stridor. It was probably mainly dependent on two causes: the direct narrowing of the trachea produced by the lateral pressure on it by the aneurismal tumour, and the spasm induced by the increased pressure on the left recurrent nerve, which was brought about by acceleration of the circulation, leading to augmented arterial tension.

The former was probably the cause of the stridor observed when the patient was quiet, which was accordingly tracheal; the latter by giving rise to laryngeal spasm was the cause of the aggravation of the symptom when exertion was made.

On Mitral Regurgitation not arising from Organic Disease.—The possibility of the occurrence of regurgitation, through the mitral valve, independently of organic disease of any portion of the heart, is a question of great pathological and practical interest. The recognition of the characteristic murmur of mitral regurgitation is generally, and, no doubt, in the great majority of instances, rightly regarded as indicative of serious organic disease. There is reason to believe, however, that inorganic or functional murmurs are of more frequent occurrence than has been hitherto supposed. Functional disturbance of the heart, being usually a remediable affection, there is rarely an opportunity for examining the state of the valve, except in cases in which organic disease has existed. Various observers have, however, been struck by the apparently anomalous circumstance of the left auriculo-ventricular opening and its valve being found, on examination, to be perfectly healthy in cases in which murmur, apparently caused by valvular incompetence, had been heard during life. Such cases can be accounted for only by one of two explanations—either that a mitral murmur may be generated without regurgitation, or that derangement of the valvular function may be brought about by functional causes.

As far as regards the former of these two hypothesis, I have taken for granted that the existence of a systolic bellows-sound, possessing the usual characters of a mitral murmur in respect of situation, maximum intensity, and direction of transmission, necessarily involves regurgitation through the left auriculo-ventricular opening. This, which is the almost universal opinion among physicians who have paid special attention to cardiac diseases, is in

opposition to the opinion of no less eminent an observer than the late Dr. Todd. Todd believed that a murmur might be engendered at the mitral valve in consequence of the deposition of lymph on its ventricular surface, the competence of the valve remaining quite unaffected, and, of course, no reflux taking place into the auricle; and even held that this condition of the valve could be distinguished from a condition producing incompetence by a special modification of the auscultatory signs.[a] This opinion of Todd has been regarded with little attention, and has not been adopted, as far as I am aware, by any considerable authority on cardiac disease. Indeed, although it is generally admitted that roughening of the endocardium in the neighbourhood of the arterial orifices may give rise to systolic murmur, it is impossible to conceive how a mitral murmur can be generated of sufficient intensity to be audible below the scapula, unless a current of blood flows through the imperfectly closed valve.

The second hypothesis will be discussed after the account of the subsequent case, which bears upon the question, and has some interest in connexion with it.

Case I.—R. C., aged thirty-three, was admitted to the General Hospital on July 30th, 1867, suffering from dropsy. She was married, and the mother of three children.

She had been a healthy woman until four months ago, when she was suddenly frightened, she being then advanced in pregnancy; she did not miscarry, but from that time she began to suffer from palpitation, and soon after her confinement œdema of the lower limbs became evident. The heart symptoms and the dropsy had continued since, occasionally much relieved by treatment.

There was considerable anasarca and dyspnea, and she complained much of palpitation. The urine was not albuminous. A systolic bellows murmur was audible on placing the stetheseope over the the heart, loudest at the left apex, and distinctly audible at the

[a] "If the bellows-sound be purely regurgitant, its position is strictly at the apex; it becomes in a marked way faint as you proceed to the base of the heart, and it is distinctly audible beneath the left scapula; and, in addition, the sign pointed out by Skoda, exists—namely, a marked intensification of the second sound. If the bellows-sound be not regurgitant, you hear it well up to the base of the heart; you hear it only feebly, or not at all, at the left scapula, and there is no intensification of the second sound. I may add that, in this latter case, the heart's disturbance, and the sufferings of the patient, are in a marked manner less than in the former."—Clinical Lectures by Dr. Todd, 2nd ed., p. 77.

inferior angle of the left scapula. Its intensity diminished as the stethoscope was removed from the left apex. The heart was very often examined by the clinical class, and no doubt was entertained as to the case being one of well-marked regurgitation through the mitral valve. There was no diastolic murmur nor any bruit in the large vessels. The jugulars were somewhat turgescent, but did not pulsate, and the intensification of the second sound, pointed out by Skoda, was not observed. There was nothing remarkable in the progress of the case. It was necessary occasionally to puncture the legs and thighs to relieve the dropsy. There was much pulmonary congestion, a good deal of severe dyspnea and distress, and she expectorated frequently small quantities of dark blood. The symptoms were ameliorated occasionally for a time, but no permanent improvement took place.

I learned that about three weeks before her admission she had been discharged from hospital after having been an inmate for nearly four weeks. She had been admitted under the care of Dr. Ross for symptoms of a similar kind to those under which she now laboured, but much less in degree. Dr. Ross also regarded her disease as incompetence of the mitral valve.

On October 1st she was transferred to the care of Dr. Drennan, who took charge of the ward in which she was, according to the system of rotation pursued in the Belfast Hospital, and she remained under his care until her death, on November 1st, 1867. It is to his kindness that I was enabled to obtain the examination after death.

The *post mortem* was made under circumstances of difficulty, and only the heart could be removed. It was examined carefully; the aorta and the pulmonary and tricuspid valves were found to be perfectly healthy; the mitral valve was well formed, and quite free from any evidence of disease, except a very slight thickening, about the size of a small shot near the free edge of its anterior flap. The circumference of the left auriculo-ventricular opening was found to be three inches and six lines; that of the right, three inches and eleven lines. The cavities seemed quite normal as regards capacity and shape, and the muscular structure of the heart was firm and well coloured. The carneæ columnæ were well developed and firm, and nothing abnormal could be discovered in the chordæ tendineæ. I exhibited the heart, and read the notes of the case, at a meeting of the Ulster Medical Society, and it was carefully examined by several members of considerable experience in pathology and

anatomy who were present, and the unanimous opinion was, that there was no evidence of their being anything whatever abnormal in its condition. The heart was specially examined with reference to the suggestion which has been put forward by some observers[a]—namely, that atrophy of the musculi papillares and smallness of the chordæ tendineæ may become important causes of valvular incompetence, but with an entirely negative result.

The appearance of the valve, as well as the symptoms and physical signs, presented a remarkable resemblance to Case I., published in the first of the admirable papers on "Diseases of the Heart,"[b] by Dr. M'Dowel. In Dr. M'Dowel's case, however, great dilatation of the left ventricle, and softening of its muscular tissue, existed, a condition which, as has been insisted on by Dr. Gairdner, may produce regurgitation through the auriculo-ventricular opening without the existence of any disease of the valve. No such change existed, however, in this case.

Observations.—It is of interest to observe that the first symptoms of ill health occurred subsequently to the patient having been frightened, the fright having taken place when she was in the pregnant state, a condition in which the nervous system is probably unusually susceptible of injurious influences of this kind. In chorea, a disease not unfrequently observed in pregnant women, mitral murmurs are occasionally observed, and these are attributed, with much probability,[c] to disordered innervation of the muscular apparatus connected with the valve. The idea naturally suggested itself that the valvular derangement might have been caused by the strong mental impression giving rise to spasmodic action of some of the papillary muscles. The influence of mental emotion in causing spasm of so partial an extent as that which produces strabismus is well known, and there is nothing inconsistent with our knowledge of the very limited and local phenomena which may be engendered by nervous impressions in this supposition. Of course, antecedently, it would be highly improbable that spasmodic action should continue persistently for so considerable a period, and should give rise to phenomena of a character so regular and uniform. Intermissions and irregularity would be much more likely to occur, and for this reason Dr. Bristowe, in an elaborate paper on

[a] Bristowe. Brit. and For. Med.-Chir. Rev., Vol. 20, p. 229. Peacock on some of the Causes and Effects of Valvular Disease of the Heart, 1865, p. 59.

[b] Dublin Quarterly Journal of Medical Science, Vol. 14, p. 354.

[c] Walshe. Diseases of the Heart, 3rd ed., p. 96.

inorganic mitral murmurs, previously referred to, dismisses somewhat summarily the notion of spasmodic action having any influence in the causation of mitral regurgitation, and attribute the incompetence to the dilatation of the ventricle, and atrophy of the chordæ tendineæ and musculi papillares. Yet it may be reasonably doubted whether we are enabled altogether to exclude such a mode of causation. Instances have been observed both of continuous and of rhythmic spasm,[a] of a nature quite as extraordinary as would be involved in such a supposition. The constantly recurring irritation of the blood entering the cavity of the ventricle might possibly bring about a constantly recurring spasmodic action. Indeed, an excellent observer[b] has suggested that even the inorganic murmurs which are so frequent at the aortic orifice may be referred to perverted innervation.

Besides, it is impossible to refer the case which follows, and several of the cases recorded by Dr. Hayden, in a paper to be afterwards referred to, to a dilated condition of the ventricle, unless, indeed, we are prepared to admit that a condition of dilatation, so considerable as to give rise to regurgitation, is capable of being rapidly produced and rapidly removed, a view which is not consonant with pathological or clinical experience. In this case there was certainly no appreciable dilatation. It is, no doubt, difficult to pronounce definitely on the absolute capacity of a ventricle, but any considerable dilatation would be readily recognized. It is curious, that out of six cases which are adduced by Dr. Bristowe in support of the dilatation theory, two are cases in which the dilated condition of the heart was only inferred and not actually observed at the *post mortem* examination; and as regards the condition of the musculi papillares and the chordæ tendineæ, in three of the six the actual condition on which so much stress is laid was also not observed.

A point, however, of much greater practical importance is the

[a] The Nervous System, by Sir Charles Bell, 1830, Appendix, p. 41 and 42. Parry, quoted by Romberg Diseases of the Nervous System. Vol. i, p. 287.

[b] "It is certain that, even when spanemia and anemia exist, functional murmur is commonly confined to cases characterized by palpitation—a result of nervous irritability—and that profuse venesection, hemorrhage, and other causes of spanemia, are also productive of palpitation, and of exalted nervous excitability. Therefore, without denying that an anemic and spanemic condition of the blood must necessarily facilitate the production of vibration and murmur, it seems to me probable that these functional murmurs are more closely connected with perverted innervation and disordered contractility of the valves and large vessels than with a mere alteration in the condition of the blood."—Fuller. Diseases of the Heart and Great Vessels, p. 47.

occurrence in this case of marked pulmonary congestion and of anasarca. In a very able paper, read at the recent meeting of the British Medical Association in Dublin, Dr. Hayden dwells on the absence of pulmonary engorgement as an important element in the diagnosis of inorganic mitral murmurs. It is impossible to comprehend why a regurgitation from functional derangement of the valve should not be accompanied or followed by the same disturbance of the circulation as would be brought about by a similar amount of regurgitation owing to actual changes in the structure of the valves. Indeed, it would seem more probable that the obstacle to the return of blood from the lungs would be, *cæteris paribus*, greater in some of the former cases, as the incompetence of the valves would be occasionally produced rapidly, and even suddenly, while in a large proportion of cases of organic change the incompetence would be of slow and gradual growth. Nor is there any reason why inorganic regurgitation should not be of very considerable amount. The fact, no doubt, is that the amount of pulmonary congestion, and the date of its appearance, are regulated by the amount of the incompeteney, by the state of the ventricle, and by the general condition of the patient. It is very probable that several of Dr. Hayden's cases would have exhibited signs of pulmonary and systemic congestion had the regurgitation not yielded to treatment.

The anasarca and congestion of the lung, which existed in my case, cannot be attributed, I believe, solely, or even mainly, to the condition of the valve. The feeble, ill-nourished, and anemic state of the patient was, no doubt, powerfully instrumental in the production of the dropsical condition. But that there was a difficulty imposed upon the heart was shown by its firm and well-developed character of tissue. Indeed, a condition of what may be called relative hypertrophy seemed to have been induced. The heart might have been reasonably expected to share in the prevailing atrophy and wasting of the body. It was, on the contrary, an organ such as might have belonged to a strong, healthy woman. This points towards a cause having existed which kept up an abnormal stimulation of its nutrition, and renders it probable that had life been much prolonged actual hypertrophy would have been produced.

Case II.—*Mitral Regurgitation of a Temporary Kind.*

A gentleman, aged thirty-three, married for about two months, of

strictly moral and temperate habits, and who had always enjoyed excellent health, was seen by me in consultation with Dr. Newett, of Moneyglass. He suffered from great exhaustion, and from a feeling of faintness when he sat up more than a few minutes at a time. He had injudiciously taken purgative medicine with the idea of his illness being the result of biliousness, and, in consequence, the bowels were rather relaxed. There was no evidence of active disease of any kind; the tongue was clean, pulse 80, and very soft, and there was some appetite. On examining the heart a soft bellows-murmur was heard at the left apex, transmitted towards the left axilla, but quite inaudible at the base of the heart, and only faintly audible at the right apex. He had never had any rheumatic affection, nor any symptom of cardiac disease, and he had been examined for life assurance a short time previously by an excellent and careful stethoscopist, who had not detected any abnormal condition of the heart. Under these circumstances, I inclined to the opinion that the murmur was of functional origin, an opinion which was verified by the progress of the case, as under tonic treatment and rest he completely regained his strength, and the murmur gradually subsided. I had an opportunity of examining his heart a few days ago, and found that its action and sounds were perfectly normal, and free from any trace of murmur.

The conclusions to which a consideration of the last two cases and observations lead are—firstly, that mitral regurgitation may be produced without organic disease of any kind, and—secondly, that it may in some instances give rise to the same physical signs and to the same general symptoms as regurgitation from organic causes.

Art. XIII.—*On Excessive Sweating.* By Arthur Wynne Foot, M.D.; Fellow of the King and Queen's College of Physicians.

In a former volume of this Journal[a] I made some remarks upon certain phenomena of the perspiration known as coloured sweating and fetid sweating. I wish now to refer to some of those cases in which the secretion of water from the skin is remarkable rather from its sensible increase in quantity than from any anomaly in its quality. There are many difficulties, some of them apparently insuperable, which prevent the attainment of a standard quantity by

[a] Vol. xli., pp. 64, 327.

which to define metrically what might be termed excessive sweating. The functional activity of the three great channels for excretion of water—the skin, lungs, and kidneys—is liable to vary in obedience to causes acting from within over which an experimentalist has little control, while, in addition, the power of mutual substitution with reference to aqueous secretion which the skin and kidneys enjoy, and the artificial conditions under which investigations as to the healthy average amount of perspiration must be made, cause but a subordinate value to be attached to the various statements made as to the normal amount of perspiration. Excessive or visible sweating, however, practically consists in an exaggerated activity of the perspiratory glands, causing a notable untimely weeping of the skin, and an annoying wetness; such an occurrence, when not due to increased exertion or high temperature, implies a disturbance in the innervation of the affected tract of skin. Under ordinary circumstances no liquid water appears on the surface of the integument, and the vaporous exhalation of the skin must be condensed before it becomes visible; hence the normal process of perspiration is called insensible, or Santorian, in honour of the great Venetian philosopher, Santorio, who made the earliest scientific experiments upon this secretion, and who is also renowned for having been the first to make use of the thermometer in diseases, and for having invented an instrument for measuring the force of the pulse. The influence which the nervous system exercises over the cutaneous secretion is notorious; and an intelligible explanation of this influence is afforded by the fact that the functional activity of the glandular apparatus of the skin is dependent upon the condition of the subcutaneous blood-vessels, and these blood-vessels, in common with all the vascular apparatus of the body, are subject to the control of the vasomotor nerves derived from the sympathetic system. The existence of this influence has been established by direct experiment, as well as inferred from clinical observation. The sympathetic nerve of one side in the neck of a horse being cut, the temperature of that side of the head rises; it becomes injected with blood, and perspiration is poured out abundantly over the surface thus affected. On irritating the end of the cut nerve which is in connexion with the vessels, the muscular elements in the walls of the latter, to which the nerve is distributed, contract, the congestion ceases, and with it the perspiration.

Excessive sweating may be partial and localized to a small area, or may be a general pouring forth from the whole cutaneous

surface. It has long been observed that the action of the sudoriparous glands may be abruptly limited to a particular tract of skin. The ancient physicians, who marked with close attention every variation in the secretion of the skin, and formed their prognoses accordingly, attached, not without reason, great importance to the *sudores non per totum corpus æquales;* the frequency with which they must have watched the droplets of sweat oozing out upon the foreheads of dying persons may have helped to form the unfavourable opinion which they entertained about local sweatings. One of the forms of local sweatings most commonly met with is that of the palms of the hands. It frequently happens that females under twenty years of age, without any tendency to general perspiration, perspire from the palms of the hands, or from the palm of one hand only (generally the right), both in summer and winter, to such a degree as to saturate with moisture everything they handle; the perspiration soon stains and soaks through gloves, soils work, and keeps their hands in such a perpetual slop that the distress arising from an at first sight trivial affection, is in many ways very considerable. I have known this affection to succeed to a typhoid fever, and again to be evidently an inherited peculiarity; in other instances the causes are more obscure. For the relief of sweatings of the hands Dr. Druitt[a] has suggested the thorough application of the hottest water that can be borne without pain to the offending parts until they are red hot, and tingling as if scalded. This treatment sometimes appears to aggravate the affection. Hebra[b] recommends the frequent local use of a solution containing one drachm of tannic acid mixed in six ounces of alcohol; this liquid should be rubbed into the part several times a day, and the skin must not be wiped afterwards; a little powdered asbestos is to be sprinkled on it while still wet, and with this the part is to be rubbed till it is dry. From statistics he finds that this complaint affects the young as well as the old, both males and females, rich and poor, those who are of cleanly habits and those who are dirty, persons who are in good health and those who suffer from other maladies. There are anatomical facts which tend to remove surprise at the frequency of excessive sweating in the palm of the hand or sole of the foot, the immense number of sudoriparous glands in these situations having been carefully ascertained. According to Krause, there are on a square inch of skin in the

[a] Medical Times and Gazette, March 4, 1865, p. 222.
[b] Dis. of Skin, Syd. Soc., Vol. i., p. 87.

former situation 2,736 glands, and on the same space in the latter 2,685; while on the back of the hand and foot, the anterior aspect of the trunk and neck, on the forehead and forearm, the number is from 924 to 1,090, and upon the dorsal surface of the trunk, on the cheeks, and the first two segments of the lower extremities, from 400 to 500. Graefe[a] has observed several cases of local sweating of the eyelid—a part richly supplied with sudoriparous glands; a secondary conjunctivitis arose from the irritation of the sweat flowing in at the angles of the eye, and to superficial observation the latter appeared the primary ailment; examination with a lens, when the lid had been wiped dry, showed that the fluid issued from many minute punctiform apertures in the skin and gradually collected into drops. Under the title of parotidean ephidrosis Rouyer[b] has described the occurrence of a discharge of fluid from the skin of the face in the neighbourhood of the parotid region; from the fact of this fluid appearing during mastication, and from the vicinity of the chief salivary gland, it was supposed by some to be saliva; however, the absence of the chemical characters of the saliva and of any sensible orifice in the skin through which it could be discharged were against this explanation. The physiologist, P. Bérard, relates the case of his own father as an instance of local sweating of the cheek while eating. Brown-Séquard regards such cases as examples of an increase of the ordinary secretion of the sweat glands of the face which not unfrequently accompanies gustation and mastication, produced by reflex action when the nerves of taste are subjected to a considerable stimulation, and refers to the phenomenon as observed and recorded in his own person.[c] In his own case he found that the phenomenon was not connected alone or even chiefly with movement of the muscles subcutaneous in that region, for food of little savour and long masticated did not give rise to it, while a sapid body, very salt, very sweet, or very spicy, held in the mouth without mastication did so. Barthez has related a case in which one side of the face sweated abundantly on the application of a little salt to the same side of the tongue.

There is reason to believe that the appearance of an unusual amount of water upon a limited area of the skin is connected with a disturbance of the vascular apparatus immediately subjacent to

[a] Graefe Archiv., Band. iv., p. 254.
[b] Journal de la Physiologie, 1859, p. 447.
[c] Comptes Rendus de la Soc. de Biol, 1849.

the affected part, and that this disturbance consists in an undue relaxation of the muscular elements of the subcutaneous arteries in obedience to a stimulus much more frequently reflected from elsewhere than applied directly. The greater vascularity and the more richly innervated condition of the skin of the face make it, perhaps, a better field of observation in such disturbances than any other part of the body. The laws of reflex secretions seem to be the same as those of reflex movements, and the sympathetic system appears to receive and reflect impressions in the same manner, to a certain degree, as the cerebro-spinal does, changes in temperature, nutrition, and secretion appearing as the results of reflex action in the former case against muscular contraction in the latter. Thus, in the case of a man[a] whose œsophagus was divided, the injection of a meal of broth into the stomach was followed by the secretion of from six to eight ounces of saliva. Many of the cases of burning heat and flushings of one or both sides of the head and face may be intelligibly accounted for by reflex relaxation of the subdivisions of the carotid arteries distinctly traceable to the pressure of a loaded colon upon the abdominal sympathetic; unilateral sweating may even indicate whether the intestinal obstruction predominates in the cecum or sigmoid flexure of the colon, since Callenfels' experiments show that irritation of one sympathetic influences the blood-vessels only on the one side of the brain and head; the irritation may even be unperceived or uncomplained of, as it has been well ascertained that an unfelt irritation may give rise to reflex phenomena, affecting nerves of motion, sensation, or secretion. Should the hyperemia resulting from paralysis of the vaso-motor nerves extend to the intra-cranial arteries, epileptic convulsions may supervene—an occurrence which consists well with the views of Van der Kolk—and the three phenomena may co-exist—fecal tumour, excessive local sweating, epileptiform convulsions. The case of a boy is recorded by Dr. Anstie,[b] in whom the whole left side of the face and the left ear were flushed deep red, the surface was pungently hot, and bedewed with a copious sweat, the heat and sweating were found to extend over the whole left half of the head, and to cease abruptly at the median line; an epileptic fit, which lasted twenty minutes, occurred soon after he had examined him. At the end of an hour or two the unilateral flushing and perspiration still continued; a brisk purgative enema was administered, and a large quantity of

[a] Edinb. Med. and Surg. Jour., Vol. xvi., p. 355.

[b] Stimulants and Narcotics, p. 96.

scybalous feces removed; this was almost immediately followed by the entire disappearance of the local heat and sweating: previous convulsive attacks had been similarly preceded by excessive sweating of the left side of the face. Another case has been reported[a] in which the first epileptiform seizure in a man apparently quite healthy was preceded by a sudden sensation of burning in his left arm—so intense that, as he had just been feeding an engine fire, he looked in his sleeve, feeling certain that it had caught fire. At the end of about an hour the sensation "fled up the body," affecting the left side of the face and trunk, and also the lower extremity of the same side, and a profuse perspiration broke out over all the hot parts; slight convulsions and coma followed; he subsequently experienced frequent recurrence of the heat and perspiration without convulsive attacks—confined on every occasion to the left limbs and left side of the face and body; the perspiration which accompanied the heat was most profuse; the moisture poured off him; the attacks occurred often three or four times a day for several days in succession, and generally continued for about five minutes at a time. Dr. Gairdner[b] has in two cases of intra-thoracic aneurism observed the phenomenon of strictly unilateral sweating stopping short quite abruptly at the middle line, and occurring (in one case almost constantly) over the face and scalp of the affected side; in each of these cases the pupil at the same side was contracted, another evidence of a paralysing amount of pressure applied to the sympathetic nerve, since a moderate degree of stimulus or pressure causes dilatation of the pupil, as is seen so often in the widely open pupil resulting from the irritation of intestinal worms, which disappears upon the expulsion of the cause.

The observation of the condition of the glandular apparatus of the skin over paralysed parts is full of interest; there is sometimes an accurately marked boundary line between the sound and the paralysed parts, the skin over the sound parts being covered with perspiration, while that of the paralysed parts is dry. In a case of complete paraplegia, from apoplexy of the spinal cord, observed by Dr. Levier, of Florence,[c] it was repeatedly observed that the paralysed parts remained quite dry, while the upper half of the body was bathed in sweat; he considers the suspension of perspiration in the paralysed parts recorded in the case quoted to be a

[a] Med. Times and Gazette, April 7, 1866, p. 367.
[b] Clinical Medicine, p. 557.
[c] L'Imparziale, No. 11, June 1, 1865.

symptom hitherto without parallel in his numerous observations of spinal paraplegia. Mr. Alexander Shaw has reported a case of paraplegia[a] from fractured spine, in which, as the patient approached his end, he several times had profuse perspirations; on these occasions it was remarked that while the skin of the whole upper sound part of his body was covered with drops of moisture, which thoroughly drenched his shirt and the hair of his head, the lower extremities were quite dry. In connexion with such cases the observation by Sir H. Marsh[b] of unilateral sweating of the sound side of the chest in empyema is of great value, from the relations believed to exist between acute purulent effusions into the pleura and intercostal paralysis. During the progress of a case of empyema following acute pleurisy, when profuse partial night-sweats set in, the perspiration completely bedewed the chest upon the sound side, while the other side, distended and œdematous, remained perfectly dry. Tanquerel des Planches, who has examined with great accuracy the cutaneous secretion in lead paralysis, says that in this affection it is not suppressed, but that, on the contrary, there is an abundant tenacious sweat secreted on the paralysed parts.

Among the more remarkable instances of general and excessive, that is, visible sweating, are the colliquative perspirations attending the venereal, cancerous, or phthisical crases, the drenching sweats of over lactation, of the terminal stage of the normal ague paroxysm, the sweatings or crisis, of rheumatic fever, and those occurring about the time the ovaries become effete. The exhausting effects of those obviously unnatural cutaneous discharges have, as is just and right, caused more anxious search to be made for any means of moderating or controlling them than of explaining their etiology. It appears as if the causes of general profuse sweating might be referable to two causes (perhaps to but really one), to the circulation of a poisonous blood and to depression of the vital powers, that is, to diminished energy of the sympathetic system. The conditions of the temperature, pulse, and skin at the termination of an ague paroxysm points to a paralysed and dilated condition of the arteries; the hepatic, splenic, or thyroidal enlargements may result from excessive flow of blood to these parts from the same cause. The earlier stage of poisoning by malaria appears very different from the later one, the cold, wrinkled, shivering surface contrasting with the hot, flushed, sweating one; but in other poisons of vegetable origin, as in

[a] Syst. Surg., Vol. ii., p. 230.

[b] Dubl. Med. Press, Jan. 2, 1861, p. 2.

opium, the earlier effects are stimulant and very different from the later ones, and the phenomena observed in the first stage correspond to those which attend experimental stimulation of the sympathetic nerve. Cruveilhier[a] remarks that of the three stages of a paroxysm of intermittent fever that of sweating is the most constant; some attacks may be without the cold stage, others without the hot stage; but it is very rarely that the sweating stage is absent; he has recognized an irregular ague by the nightly recurrence of profuse sweating amenable to quinine. There is reason to believe that the perspirations of rheumatic fever, although they may seriously compromise the comfort of the patient, and he may be sensible of but little relief from pain by them, yet serve to remove from the body much of the materies morbi which is the exciting cause of the symptoms. In phthisis profuse perspiration, although generally a symptom of very advanced disease, may be present at a period when both auscultation and percussion give only dubious information as to the condition of the lung, and in such case it will be found generally to be disseminated tubercle, from which the individual is suffering. Cruveilhier[b] records a remarkable case of this kind which, as far as physical diagnosis was concerned, remained undetermined up to the person's death, but which was marked from the very first by excessive night sweats, accompanied with rapid emaciation and profound debility. Regarding the colliquative sweating of phthisis as a consequence of vaso-motor paralysis resulting from constitutional exhaustion, it is not difficult to appreciate the value, although often but temporary, of nutritious diet, and such medicines as cod-liver oil. In support of the view that phthisical sweatings are the natural result of the depressed condition of the vascular system of the patient, are the observations that these perspirations usually come on when the person falls asleep, and more frequently during night sleep than day sleep; it has also been shown by Dr. Edward Smith[c] that in cases of phthisis the subsidence of the rate of pulsation during the night is much greater than in health, and that the greater difference between the day and night rate in phthisis than in health is less due to the increased elevation of the pulse during the day than to the great subsidence of it through the night. The usual time for the occurrence of perspiration in typhoid fever is in the night, the skin

[a] Traité d'Anat. Path. gen., Vol. iv., p. 100.
[b] Traité d'Anat., Path., gen., Vol. iv., p. 99.
[c] Cyclical Changes. Health and Disease, p. 75.

in the day time being usually dry; and according to Traube's researches, the critical evacuations in typhus fever, and among them perspiration, are always preceded by a considerable fall in the pulse. In many other cases depression of the heart's action is a well-known cause of perspiration—for example, those attending the syncopal state, which the inexperienced smoker falls into, the sweating which attends sea sickness, extreme purgation, the exhibition of tartarized antimony, and the effects of terror. The remedies which prove serviceable in the majority of cases of excessive general sweating are such as tend to remove depression of the heart's action and act as tonics on the vaso-motor nerves. The difference in gravity of import between local and general sweatings appears to be very great, because, although a partial sweating may excite more alarm and closer attention from the greater rarity of its occurrence, yet it does not appear that it is in most cases indicative of by any means as serious nervous disturbance as are the general sweatings.

ART. XIV.—*Thoracic Aneurism and Dementia.* By WILLIAM MOORE, M.D., Dub. Univ.; Fellow and Examiner in the "Practice of Medicine," King and Queen's College of Physicians; Physician to Mercer's Hospital; Physician-in-Ordinary to Sir P. Dun's Hospital; Lecturer on "Practice of Medicine" and on Clinical Medicine, &c.

THORACIC ANEURISM may be said to be relatively a rare disease. Now, among the cases of this affection which I have had an opportunity of observing for some years, I have seen *dementia* a prominent symptom in three of them. This phenomenon struck me as remarkable, and therefore I thought a detail of these three instances might not prove devoid of interest, as going to show that mental diseases are more intimately associated with general pathological changes than some time ago they were believed to be, and that they may depend on comparatively remote, and frequently very obscure, exciting causes, the diagnosis of which must materially affect our prognosis and treatment.

CASE I.—*Mania, with General Incoherence; Aneurism of Transverse Portion of the Thoracic Aorta.*

Philip S., aged forty-seven, was admitted into Mercer's Hospital on the 1st of May, 1863. He had been a labourer for the past few years. About four years before his admission he was seized with a

hard, dry cough, difficulty of breathing, and pain in the right side; and about this date he spat some black blood, which reappeared from time to time. He complained of pain down the right arm after using it, the pain about the articulation of the humerus being very severe. For about a year previous to his admission he suffered from difficulty in swallowing, and his voice was subdued and hoarse. On making him take a deep inspiration the expansion of the chest was not equable, the right scapula being more movable than the left. There was absence of respiration over this side, except under the scapula, where a faint respiratory murmur was audible; respiration was audible over the right side. The heart's action was irregular; the pulse in the right wrist stronger than that in the left. The veins over the top of the chest generally were unduly prominent; there was contraction of both pupils, especially of the right. I made the diagnosis of thoracic aneurism mainly from the character of the hemoptysis and the absence of respiration in the left lung, coupled with dysphagia. About a month after leaving hospital this patient was admitted into the Richmond Lunatic Asylum, where he died the day after his admission.

Dr. Banks was kind enough to show me the pathological conditions, which consisted of an aneurism, slightly pyriform in shape, which engaged the posterior portion of the ascending angle and transverse portion of the aortic arch; the heart was fatty, its valves intact; the brain was not examined. Now, whilst this patient was under my observation, his manner at times was so excitable and unsteady as to induce me to inquire carefully into his antecedents, when I learned he had been an inmate of a lunatic asylum some years previously, and afterwards was admitted into the Richmond Lunatic Asylum, as Dr. Lalor has told me, labouring under "mania, with delusions and general incoherence."

From the situation of the aneurism in this case, it might be reasonable to infer that the carotid supply was interfered with, and, in addition, that reflected nervous irritation may have played an important part in the production of the psychological phenomena present; but as the brain was not examined I am not disposed to indulge in these hypotheses, but to confine myself to what we did find, viz., an intra-thoracic aneurism, associated with dementia.

CASE II.—*Difficulty of Speech; Imperfection of Mental Powers; Loss of Memory; Paralysis of Motion and Sensation.*

PATHOLOGY—*Large Thoracic Aneurism, with left Carotid Artery*

impervious from its origin to its bifurcation; atrophy of left hemisphere of the Brain.—Andrew F., aged forty-four, by trade a shoemaker, was admitted into Mercer's Hospital suffering from neuralgic pains over the top of the sternum, from a troublesome cough and dysphagia. He complained of tightness of the skin of the left half of the face, of tingling sensations of the same half, and, at times, of intense heat of both ears. There was ptosis of the left eyelid and drooping of the left angle of the mouth. The left pupil was more contracted than the right, and a herpetic eruption covered the left half of the upper lip and chin, and other patches of herpes were present over the top of the chest and shoulders. The superficial veins over the upper part of the chest were remarkable, and a prominent tumour extended from the right clavicular articulation across the sternum for more than an inch under the left clavicle, over which tumour a second centre of pulsation could be felt. The left radial pulse was indistinct, and the respiration was especially feeble over the left lung. In the month of May previous to admission he had an attack of epistaxis, which gave him relief, and in October and November it returned, at the end of which the semi-ptosis of the left lid, the deformity of the mouth, the herpetic eruption, ringing laryngeal cough, partial aphonia, and visible tumour, were present; but the contraction of the pupil, the tightness of the muscles of the face, with increased heat of ears, had disappeared to a great extent.

[a] On the 16th of March, 1864, this patient was admitted into the Whitworth Hospital under the care of Dr. Banks, four days previous to which he was seized with severe headache and giddiness, his articulation having become so imperfect that he could scarcely be understood. On admission there was still some difficulty of articulation, and his mental powers were evidently very imperfect; his memory was quite gone. On being asked his age he stated that he was twenty-four, his real age being forty-five or forty-six. There was some slight paralysis of the right side of the body and also of the right side of the face; however, he was able to walk into hospital, but on the second or third day after admission he completely lost all motion of the right side, and there was manifest anesthesia of the same.

On examining his chest a tumour was found, small in size, but of extreme hardness; it was prominent and occupied the upper part of the sternum, and extended to the right sterno-clavicular articula-

[a] Proceedings of Pathological Society, Vol. ii., Part III.

tion. From the 16th March till 23rd May, when he left the hospital, Dr. Banks tells us that, so far as the tumour was concerned, there was no change, but the paralytic symptoms gradually disappeared; he recovered the motion of the right aide, and his memory returned.

It would be needless to follow the various phases this case presented till it proved fatal, which occurrence took place on the 28th March, 1864, when a *post mortem* examination revealed the following pathological changes:—A spherical-shaped tumour was found to spring from the upper part of the transverse portion of the aorta; it measured sixteen inches in circumference. Neither the ascending or descending aorta seemed to be altered in their calibre. The tumour separated the vessels at each side which arise from the aortic arch to a great extent. The trachea was completely flattened and arched so as, over the most projecting part of the tumour, to have become convex posteriorly. There was so much pressure exercised on the trachea that it was strange the patient did not suffer more and earlier from dyspnea. The recurrent laryngeal pneumogastric and phrenic nerves did not seem to have been pressed upon materially, and the heart was small and healthy, with the exception of some calcareous deposit about the semi-lunar valves, which did not seem to have interfered with their functions.

On examining the cranial cavity the arachnoid was slightly thickened and opaque, and a slight amount of sub-arachnoid effusion was found; but what was particularly interesting, the left hemisphere of the brain was smaller than the right, and a small depression or cicatrix existed on its surface on the inner and anterior part of the anterior lobe. Small atheromatous deposits could be seen on both internal carotids, and the left carotid was impervious from its origin in the aneurism to its bifurcation.

Here was a case of thoracic aneurism, in which difficulty of articulation, imperfection of mental powers, with total loss of memory, and paralysis of motion and sensation were associated with an impervious condition of the left carotid artery from its origin to its bifurcation, and an atrophic condition of the left hemisphere of the brain. Now [a] Greisinger tells us that an important lesion, and one which is frequently met with in the insane, is atrophy of the brain, sometimes of the convolutions, sometimes of the entire cerebral mass; and, in many instances, insanity is a symptom of a cerebral disease, of which we do not yet know the minute anatomical

[a] Sydenham Society, 1867.

changes of the first stage, but which, at a later period, leads to atrophy of the brain; whilst changes of nutrition, and disorder of the circulation within the cranium appear to play an important part in the origin of insanity.

With respect to the symptoms produced by unilateral atrophy of the brain.[a] Schroeder Van Der Kolk tells us they manifest themselves partly in the more or less defective exercise of the mental powers. That in atrophy of the one-half of the cerebrum, the psychical powers should be blunted or paralysed might be, perhaps, assumed, as generally true, and, in fact, such atrophy is most usually met with in adults.

Hence when embolism of the cerebral vessels or obstruction of the carotids or their tributaries, with consequent diminished nutrition of the brain occur, we may expect giddiness, loss of consciousness, loss of speech, loss of memory, and disorders of the intellect generally, with lesions of motion and sensation, as the above case exemplified; these phenomena were still further well shown in the following case of thoracic aneurism, which, through the kindness of Dr. Jennings, I had frequent opportunities of observing during the past six months, and to whom I am indebted for the following history.

Case III.—*Complete Temporary Insensibility — Dementia — Delirium—Fugitive Paralysis.*

Pathology.—*Enormous Thoracic Aneurism—Empty Carotids—General Atrophy of the Brain.* Matthew E——, aged forty-four, of stout and muscular build, was admitted into the South Dublin Union on the 29th June, 1867. He seemed in perfect health, and retired to bed on the night of the 1st July without having made the slightest complaint; he was found on the following morning in a state of complete insensibility. When seen by Dr. Jennings, about 11 a.m., he was lying on his back, silent and motionless, with closed eyelids and compressed lips, the temperature of his body being perfectly natural, and his respiration tranquil and free from the slightest stridor. When his eyelids were separated the pupils were natural in size, but completely unaffected by the admission of light.

This state of tranquil immobility, however, was reported by the attendants to have been occasionally interrupted, since his admission into hospital, by attacks of vomiting and restlessness, his struggles

[a] "Atrophy of the Left Hemisphere of Brain."—Sydenham Society, 1861.

being restrained with much difficulty. The heart's action over the entire precordium was found to be rapid, the pulses at both wrists strictly similar in character, and visible pulsations were present in the carotid, subclavian, and humeral arteries.

A conical tumour, several inches in height, and having a base of considerable extent, with double heaving impulse, was seen situated over the upper part of the sternum, whilst a second centre of pulsation, though much more faint and limited, was observed below the left nipple. In neither of these situations could any bruit be detected.

When loudly addressed by name he languidly opened his eyes, but made no attempt at reply; however, when shaken somewhat roughly by one of the byestanders, he raised his head from the pillow. On the following morning the insensibility was found to be much less profound; he seemed semi-conscious, but still incapable of giving intelligible replies. When the cup was held to his lips he drank freely, and his respiration was tranquil and unembarrassed. The throbbing in the tumour was not by any means so distinct as on the day previous. The expansion, percussion, and respiration of both sides, posteriorly, were normal.

On the morning of the 5th July, Dr. Jennings found the right arm completely paralysed; when roused by being shaken or loudly called by name, he would start as if from sleep, stating his age, name, trade, as the case might be. One or other of these replies he invariably gave to whatever question was addressed to him.

The paralysis of the right arm, was said by his daughter, who happened to be present, to have attacked him for the first time about four months previously, when he had been carried home insensible, and to have disappeared after the lapse of three days. She further stated that the growth of the tumour, which first appeared ten years ago, was occasionally attended with paroxysms of pain, which lasted for hours, and which were so agonizing as to well-nigh deprive him of his reason.

The statement as to the fugitive nature of the paralysis was verified on the present occasion, as on the following morning it had completely disappeared, although all the other symptoms continued unchanged for several days.

On the 14th July a marked improvement was observed in his manner; having been dull and heavy, he now became lively and vivacious, when spoken to; he replied promptly, although his answers had no connexion with the question asked. He was

extremely restless and required to be confined. He remained much in this state for a month, his intelligence gradually coming about, till at length he drew Dr. Jenning's attention to the eyes of the patient in the next bed, which he remarked were "very sore," such being the case. During the months of September and October no very unusual symptoms were present; on the 2nd November the left arm was found to be paralysed; however, after few days he recovered the use of it.

All this time the tumour was increasing, and early in December he had again become dull and idiotic. On the 10th of this month he was suddenly seized with furious delirium, after the partial subsidence of which, he complained of great pain in the aneurism, which he guarded with both hands; when the violence completely disappeared, which it did after the lapse of a few days, he became more rational then he had been since his admission into hospital.

On the 16th February last, Dr. Jennings first observed a difference in the radial pulses, the left being rapid and indistinct. On this day he was convulsed, and the tumour was beginning to discolour and slough; at one point there was very slight oozing, which was soon checked by the application of sesqui-chloride of iron; from this day he continued more or less insensible till the 26th February, when he died from apparent asthenia.

Dr. Jennings, in making the *post mortem* examination, was assisted by Dr. Purser. On removing the calvarium the brain was seen not nearly to fill the membranes, which in several places lay in folds over it; in fact, it was generally atrophied.

A considerable quantity of fluid was found in the sub-arachnoid spaces, as also in the ventricles. The arachnoid membrane was thickened, pulpy, and gelatinous. The upper and outer part of both hemispheres were of a dirty yellowish colour, and the convolutions small and depressed. It would be difficult to define the actual condition of the brain substance; it might be termed "brittle" in consistence.

No emboli were found in any of the vessels, but the carotids and the larger arteries of the brain were well nigh empty, and large coagula occupied both pulmonary arteries. The heart was in a state of fatty degeneration, all its cavities were enlarged, the valves seemed intact. On slitting open the aorta from behind, the aneurism was seen to spring from the front of the ascending portion of the arch, immediately above the semi-lunar valves; the aperture of communication with the vessel being circular in outline and three

inches in diameter, and its circumference thickened, rounded and prominent. The sac was filled partly by coagula of blood, and partly by masses of fibrin. The coats of the aorta were occupied generally by atheromatous and semi-osseous depositions.

In this case we had an unusually large thoracic aneurism and chronic arteritis combining to diminish the calibre of the cerebral vessels; in fact, giving rise to an empty condition of the carotids with consequent atrophy of the brain, the dementia and paralysis pointing to disorganization as well of the grey substance as of the ganglionic centres.

My object in adducing these cases is to show that "mental diseases," so called, may be entailed by comparatively remote physical conditions, and hence arises the importance of taking the widest range in approaching the consideration of these affections. We are familiar with mental phenomena termed "reflex," when they are found to co-exist with uterine, genito-urinary or other abdominal irritations, but the changes which these causes bring about in the nutrition of the brain are difficult to define. Now, whilst our knowledge of psychology as yet is not so far advanced as to enable us to specify in all cases from certain symptoms, certain pathological changes, still if in a case of dementia we can detect a latent aneurism or intra-thoracic tumour which, from its situation, it is to be presumed, would cause obstruction of the cerebral supply and consequent atrophy of the brain, it is needless to add, how materially such a discovery would affect the prognosis and treatment of such a case; experience having shown us that dementia attendant on a chronic atrophic condition of the brain is of most unfavourable prognosis, whilst insanity in more acute and subacute forms, where no such positive evidence of persistent diminished nutrition of the brain is present, may be regarded as relatively hopeful and capable of cure.

ART. XV.—*On the Management of Sleeplessness in the Acute Affections of Children.* By HENRY KENNEDY, A.B., M.B.; one of the Physicians of the Cork-street Hospital, and attached to Sir P. Dun's Hospital.

IN the following remarks, which I promise will be very brief, I would make some observations on the raving and sleeplessness so often attendant on the acute diseases of children. I am induced

to take up this point, because it would seem, as far as I am aware, to have been little noticed by authors. I believe it, however, to be one of no little consequence, and for which we should always be prepared. I have thought, indeed I am sure, that sleeplessness in the acute diseases of childhood is, *cæteris paribus*, a much more serious symptom than in the adult. The result of many years' observation strongly confirms this. Nor need we wonder at it. Sleep is of much more consequence in the young than in those more advanced in life, and the loss of it is consequently more serious in its results. The frame cannot yet bear, in the same proportion, the deprivation of such an important function as sleep; and when to this we add the fever present, the child suffers accordingly. Here, however, as in the adult, we may observe the great differences which exist. Some will bear the loss a great deal better than others; and one child will be more cut up in three days than another in a week. It need scarcely be added that the more rapidly they suffer from the loss of sleep or flesh the more serious is the case. In the same category, too, I would notice the fact of the flesh getting soft and flabby; and it may often be observed that this state will ensue without a corresponding loss of flesh. This is a point worthy of remembrance.

Before going further it may be well to state that the remarks about to be made must be more or less general in their character, and will apply chiefly to the acute fevers of childhood, such as typhus, with its several types, measles, scarlatina, smallpox, &c., I would further, too, state that many points connected with the raving of fever and sleeplessness are purposely omitted, as they are well known, and scarcely differ from the means used in adult life.

Now, when we are called to treat a case of fever in a child where the brain is greatly excited night after night, time becomes a very important element as to how and when we should act. This much I may say, we can use means sooner—I mean with both safety and advantage—than in the adult. In the latter, every one who has had to do with fever knows how difficult a matter it frequently is to induce sleep; nay more, that at times our best efforts fail to accomplish it; and matters may even be made worse. The late Dr. Graves, as all know, wrote largely and ably on this very point. In children, however, success is much more certain. It would seem as if we had little to contend against but an excited nervous system, and the means employed are crowned with success. The nervous system at this age we know is in a wonderful state of

activity, and powerfully modifies all the functions of life; and I repeat that successful efforts are much more frequent in children than adults. There is, however, another reason, as I believe, why this should be so. In the young all the functions are yet in their integrity, and medicines act with a precision which we may look for in vain in more advanced life. It has often appeared to me that that most difficult part of medicine, the study of therapeutics, could, with great advantage, be carried out on children; and were this the place good reasons could, I think, be advanced for it. But as I must go on I shall only say that no reasonable opportunity of carrying out this idea should be allowed to escape us. With these remarks I shall now call attention to a few points in connexion with the inducing of sleep in the acute diseases of children.

And first of food. When the proper stage arrives, say after the first week—and I am now speaking of the common fever of children—much may be done by this means to induce the child to pass a quiet night. It will always be well, then, to act in keeping with the general habits of the child; and so the time of giving anything becomes very important. A little warmed milk will often be found to answer the end in view; or, as the case may be, a little bread and milk. I say specially a little, for if it be overdone—and in these days of overfeeding such may occur—the object will defeat itself. Another and probably more certain means of bringing on sleep is the administration of some stimulant, such as a few drops of brandy or some wine. Speaking generally of the fevers of childhood wine is not required. Hence, when given with a special purpose in view, it acts with a very specific effect. I have the impression, too, that when given warm, as in negus, it produces the best results, and the narcotic effect of it is that for which we should look. It is not possible here to state the amount which ought to be given. The requirements of each case must regulate this. But from half an ounce to one ounce of wine may be said to be the dose for a child of six to eight years of age.

And now I would say a few words on the use of anodynes, which some experience enables me to add may be ordered with very great advantage to children—far more generally, I believe, than is commonly supposed. The medicine I use is the tincture of hyosciamus, in the dose of a drachm, which, notwithstanding what has been written against its having any anodyne effects, I believe to be most useful. It has been given in too many instances with good

effect to leave now even a shadow of doubt on my mind. It has the great advantage, too, of not disagreeing, and may be given, in the dose stated, even to children of not more than four years of age. To older children I have often given two drachms at once, but only after the ordinary dose had failed, or had been but partially useful. In the acute diseases of children the use of opiates demands even more caution than in adults. I need not remind this meeting of the extraordinary susceptibility of infants to opium; and it would almost seem as if, when they were more of children—that is, from five to ten years old—the same susceptibility, in a great degree, remained, allowance, of course, being made for the difference of years. I am speaking now of the internal use of the medicine; there is, however, a mode of using it to which I am very partial, and has so often been followed by satisfactory results that I believe it to be worthy of special notice—I mean the external use of opium, either by wetting a bit of lint with laudanum, and laying it on the abdomen, or better still, by pouring some laudanum on the surface of a warm poultice, and so applying it. These are means which are ever safe, and have the marked advantage of being easily applied.[a]

The last point in connexion with my subject which I would notice here is the position of the patient. I know not whether I am addressing any one who is familiar with this plan, but it is one which I have for several years past put in force, and often with very marked results. I had read in some book that sleep was often prevented from the position of the person not being in the right direction, and that to ensure the soundest sleep the head should lie to the north; and strange as this idea may at first sight appear, it has more in it than might be supposed. There are known to be great electrical currents always coursing in one direction round the globe; and there can be little doubt, in my own mind there is none, that our nervous systems are in some mysterious way connected with this universal agent, as it may be called, electricity. I am probably addressing some who are quite conscious of peculiar feelings on the approach of a thunder storm. I have known many such. At any rate, whatever the explanation be, when I read what I have stated the idea at once struck me that it might be turned to account in the treatment of disease, and very shortly

[a] It must be understood that till a child reaches five years of age, even the external use of opium must be tried with the greatest caution. An infant could readily be poisoned by this plan.

afterwards the following case occurred:—A young lady, then about eleven years old, was seized with measles in a severe form. There was very high fever, restlessness, and raving, with a total absence of sleep, and this state went on longer than the natural course of the disorder seemed to account for. In fact, the fever did not come down with the decline of the eruption. Anodynes were now given, but without any marked benefit. I then thought of what I had read, and directed that the patient's position should be altered. She had been lying east and west, and she was now put north and south, and with a very striking result, as on the very first night she got sleep; and though the fever, evidently like the secondary fever of small pox, ran on some days longer, she did not suffer again from loss of rest. I must say, at the time this case occurred, I was quite unprepared for the result, and set it down more to chance than anything else. The fact, however, was enough in itself to draw my attention to the subject, and since then I have often put the same plan in force, and now cannot doubt that it is very frequently successful—I say frequently, for all are not equally susceptible. Nor indeed can this be expected. It applies too, likewise to adults; and my friend Dr. Grimshaw has seen it put in force in some cases of fever in the Cork-street Hospital, and with marked benefit. I may remark, however, that it is not so striking in its effects on the poorer as amongst the richer classes of society; and this seems to me just what might be expected, for it cannot be doubted that the nervous system in the middle and upper ranks is always in a much more sensitive state than with their poorer brethren. Hence it is that in fever hospitals sleeplessness is rare when compared with what occurs amongst the higher classes. It is worth noting that even in healthy persons sleep will often be absent, or of a broken kind from the cause of which I am speaking. It is very common to hear people saying they can never sleep in a strange bed. Now, though many causes may conspire to this, I cannot doubt that amongst these ought to be placed the one to which your attention is being drawn. One of the latest cases in which the means now brought forward were used was that of a little girl I saw with my friend Dr. Denham within the last month. Dr. Wilson, of Coleraine-street, also saw the case. It was one of severe gastric fever, with the brain very much engaged, and, for a few days, the symptoms were very like those which so often usher in hydrocephalus. In this case two of the means here spoken of were adopted. An

anodyne poultice was applied to the abdomen, and the child's position was altered, and with a result which was very striking, for by the second day all danger had passed away, and the very first night of its adoption the child slept. I mention this case because it was seen by others.

In concluding these brief remarks I would wish to add that they have not been advanced as anything at all new. My wish is more to speak of a principle which I believe to be of much importance in the treatment of the acute affections of children. Thus in scarlatina it will, I think, be found that anodynes should form a necessary part of the treatment. They have appeared to be very suitable to those cases where there has been such raving as, if allowed to go on, must destroy life. And again, in those cases of fever where the brain is greatly excited, the same plan will be found very useful. It is so even when the fever is of the typhus type, being marked by the presence of spots, and of which a number of examples have been given in another place. But it is more especially suitable for the type of fever known as gastric, which is so common in children, and so apt to prove tedious. I cannot doubt I have seen many instances where this disease has been shortened by the adoption of the means brought under notice this evening.

ART. XVI.—*Reports in Operative Surgery, from the County Down Infirmary.* By JOHN K. MACONCHY, M.B.; F.R.C.S.I.; Surgeon to the County Down Infirmary.

I.—EXCISION OF THE KNEE-JOINT.

II.—OBSERVATIONS ON THE USE OF CARBOLIC ACID AS A SURGICAL DRESSING.

Excision of the Knee-joint.—Eugenius Miskeley, farm labourer, admitted to the Co. Down Infirmary 6th November, 1867.

The right knee is swollen, being three and a half inches more in circumference than the left; the swelling involves about the lower fourth of the thigh, and upper fifth of the leg; there are several cicatrices in the vicinity of the joint, and three open sinuses discharging pus, but not profusely; in none of them does the probe impinge on denuded bone; the feeling given to the fingers by the swelling is that of either elasticity or deep fluctuation; pressure in

the immediate vicinity of the articulation is painful, but can be borne pretty well at a little distance; the limb is kept in the extended position, but is capable of being slightly flexed, the action causing considerable pain; the patella is movable; he complains of constant pain and occasional starts.

His complexion is fair and clear; temperament nervous; he is pale and thin; pulse over 100, and variable; he is subject to perspirations; the thoracic viscera are healthy; appetite moderate; urine normal.

History.—Nine years ago, after great exertion in pursuit of a runaway horse and cart, his knee suddenly swelled, his attention being first attracted to it by finding the leg of his trowsers distended; it gave him no pain at the time, merely feeling stiff. For two years he did little for it, though the swelling never subsided; during that time he continued to work, suffering only occasional attacks of pain. Since then he has suffered much, and has been frequently treated for it; he gives the account of many variations in his state and sufferings; but the disease has steadily progressed; for some time previous to admission, sleepless nights and the perspirations of hectic fever have rendered him miserable.

His object in coming to the infirmary is to have the diseased parts removed; he has heard that this might be effected without the removal of his leg and foot.

For nearly a month tonics, rest, and nutritious dietary, were persevered in without producing any effect on either the constitutional or local symptoms. His state left but two alternatives—amputation and excision—to choose between. In alluding to the circumstances which induced me to adopt the latter, I think it wholly unnecessary to enter on its advantages over amputation, when successful, Sir W. Fergusson's remarks on the subject are so conclusively in favour of the natural leg and foot being better than any artificial prop, even when they are considerably shortened.

This advantage, however, is only attainable by an after treatment much more troublesome and tedious than that of an amputation, and so long as pyemia exists as a possible consequence of a surgical operation, I cannot but think that the two large surfaces of sawn cancillated bone are more likely to induce it than the single smaller surface of compact bone in an amputation.

In this case, to warrant the increased hazard, I had a patient anxious that if possible his leg and foot should be preserved; of an age that gave hope of sufficient vitality to pull through the tedious

after treatment; with a history that showed clearly that the disease had commenced in the synovial membrane; so that notwithstanding the evidences of disorganization of it and of the cartilages, there were good grounds for supposing the bones were not diseased at any great distance from the joint. The absence of severe pain on pressure at a little distance from the joint gave some security as to the state of the periosteum.

The probability of pyemia I considered small, as the Infirmary is well situated on high ground outside a small town, and, therefore, comparatively free from the baneful influence which exist in thickly populated districts. I determined also to adopt the carbolic acid dressings as recommended by Professor Lister, believing that they must, at least, diminish the probability of pyemia. Dr. Nelson, the Assistant-Surgeon of this Institution, having had the opportunity of seeing these dressings applied by Professor Lister himself, and his house surgeon, in the Glasgow Infirmary, has lately treated several cases here on this plan with complete success, and convinced me of its applicability and value in preventing decomposition in a wound, facilitating union, and preventing constitutional disturbances, even in severe cases of compound fracture of the leg.

Having fully weighed all the circumstances, I believed it to be a case in which there was a fair chance of the operation of excision succeeding, and that as the patient was rather losing, further delay would be injurious. Accordingly, on December 2nd, I proceeded to operate; the patient having been placed on a low table, chloroform was administered by Dr. W. N. White, and complete anesthesia maintained, so that though there was occasionally a good deal of movement on the part of the patient, yet his first inquiry when in bed was whether the operation was over. Dr. W. Thetford took charge of the leg, and facilitated in every way the steps of the operation. Dr. Nelson had charge of the femoral artery, and did not allow a drop of arterial blood to escape till we were ready to secure the vessels. I adopted the H-shaped incision. Some pus escaped from the outer side of the joint; in reflecting the upper flap, the sinuses before mentioned were found to be lined with a pyogenic membrane; the fibrous structures on the lateral aspects of the joint were easily divided; the limb was then flexed to nearly a right angle, and the crucial ligaments brought well into view; they were stronger than might have been expected, from the duration of the disease, and contrasted remarkably with the altered state of the other articular structures; the posterior fibres were divided

with caution; the bones could now be separated a little, and the condyles were cleared from their posterior attachments, care being taken to keep the back of the knife to the popliteal space, the blade of Mr. Butcher's saw was passed behind the bone and the articular extremities sawn off; the line of section being accurately parallel to the plane of the joint, and therefore slightly oblique to the axis of the femur, a thin slice was then sawn off the head of the tibia with similar precaution; the feel of the saw in passing through made me sure, of what sight and touch afterwards confirmed, that the sections were made in sound bone. The patella being deeply ulcerated on the articular side was removed. The most tedious part of the operation was the securing of the multitude of small arteries which had retreated into the fibrous structures; having ligatured them, all clots were removed and the wound washed out with a solution of 1 to 30 of carbolic acid.

The sawn surfaces of bone were then adjusted, special care being taken to prevent the interposition of any soft part, and I had the satisfaction of seeing that when they were in apposition the axis of the leg was correct; the flaps were then replaced and retained in position by two points of sutures, one at each side so managed that the one stitch effected the apposition of the flaps to each other, and of both to the posterior margin of the vertical incision, lint steeped in carbolic acid and oil was laid over the lines of incision, carbolic acid putty over that, and a large piece of sheet-lead over all; the limb was then placed in a splint almost exactly similar to Mr. Butcher's. During the latter part of the operation and the dressing of the wound, the tendency to flexion of the thigh on the abdomen was very great, requiring constant and powerful exertion on the part of Dr. MacCormac, of Belfast, and Dr. W. Garner, to counteract it. The splint having been satisfactorily adjusted, the table was carried to the foot of the patient's bed, and he was lifted into it with as little disturbance as possible.

The clear, accurate, and detailed description given of this operation in Mr. Butcher's work on "Operative and Conservative Surgery," was of the greatest service to me, as before attempting it myself I had never had an opportunity of being present when it was performed.

Soon after the patient was placed in bed emesis occurred; afterwards he got some wine and a full anodyne, and warmth was applied to favour reaction.

As soon as I conveniently could, I examined the ends of the

bones which had been removed; they were covered with the fibro gelatinous fringes which are usually so plenty in advanced disease of the knee. The cartilage of incrustation had completely disappeared except one thin narrow bit on the inner edge of the inner condyle of the femur, and a corresponding bit on the tibia; even this was, however, quite rough and eroded, the ulceration of the patella was very deep and the bone quite soft; most of the fringes attached to it were dark and pulpy. The inter-articular cartilages were replaced by a gelatinous substance which did not even preserve their shape, except that few fibres of some strength showed where the posterior horn of the internal one had been.

On placing the sawn surface of the tibia on the table, and placing the end of the femur on it *in situ* for the erect position, I found the two measured exactly two inches on every aspect, front, back, and lateral; between a quarter and half an inch belonged to the tibia, and the rest to the femur.

For two days after the operation there was great constitutional disturbance and constant vomiting, which resisted prussic acid, morphia, &c. The first thing that the stomach retained was good pale sherry, and soon after a few sponge rusks; on the evening of the 4th the vomiting had ceased; the pulse was 140, yet the expression was good, and breathing unembarrassed. On the 5th, pus first appeared on the lower surface of the putty dressing, which was removed daily without the least disturbance to the limb.

During the ensuing three weeks the pulse kept above 130; irritative fever was gradually replaced by hectic; perspiration was profuse, and there was about an ounce of pus discharged daily; his appetite was, however, sufficient, and bowels regular without aperients.

The perspirations decreased under the use of bitter infusion and mineral acids. The only advantage obtained from the carbolic acid dressings was, that they prevented decomposition of the pus in the wound, the putty dressings when removed being always free from odour.

December 27th.—These dressings were removed, when it appeared that the sinuses were the chief source of suppuration, a carbolic acid lotion substituted for the dressings, and a solution of nitrate of silver was injected into the sinuses; this treatment was soon attended with a great decrease in the amount of suppuration and proportionate improvement in the patient.

The next note of importance is

January 10th, 1868.—Wound cicatrizing rapidly, secretion of pus very moderate.

Of his own accord he rolled the limb from side to side without the least pain or uneasiness; in a compound fracture of the thigh, attended with copious suppuration, more firmness than this indicates could not be expected in less than six weeks.

His general health continues good.

January 23rd.—The progress of the patient since the last note has been in every respect satisfactory; the incisions are all healed; one sinus is closed; two others still discharging. For the last three days the splint has been discarded, and the limb inclosed in canvas stays ribbed longitudinally with crinoline steel as a measure of precaution, for the firmness is such, that the limb can be raised from bed by the heal, and kept up without other support, while all necessary changes in the dressings and bed-clothes are being made, without occasioning either pain or uneasiness; considering that only seven weeks and three days have elapsed since the operation, I think this amount of firmness is as much as could be expected.

March 26th.—The firmness of the limb is now most satisfactory; he can bear it to be raised by the ankle, and roughly and rapidly shaken from side to side. There is a constant discharge from the sinus on the outer side of the limb, and a probe passed through it impinges on bone, so that at best the patient's recovery cannot be complete till an exfoliation has taken place. The health of the patient is good, and his capacity for taking nourishment is quite sufficient, so I still hope for a favourable result. Whatever may be the termination of the case, I intend, at some future time, to bring it before the readers of this Journal.

Since writing the above, I have read with great interest the case of excision of the knee reported by Dr. Stokes, junior, in the last number of the Journal, and so far as the experience of one case entitles me to speak on the subject, I entirely agree with the opinion expressed by him—that when the vitality of the patient is much reduced by either the duration or severity of the disease, amputation must be resorted to; still, I think, in some cases the very question as to whether the vitality is so far reduced as to forbid excision and demand amputation, will have the two operations canvassed at the same time. Indeed, as far as this case is concerned, it is not very encouraging, as it is nearly typical of the class of case in which the operation ought to succeed, and yet if

it does so it will be after many months of a process almost as exhaustive, though less painful, than the original disease of the joint.

Carbolic Acid as a Surgical Dressing.—I am induced to offer a few remarks on this subject, as now, from nearly nine months' experience, I entertain no doubt of the value of these dressings, when properly carried out, and I think the profession is indebted to Professor Lister, of Glasgow, for a great improvement in surgery. Where practitioners have failed to get such results as he has reported, I think it highly probable that they have not been sufficiently accurate in the manipulation of their cases. Yet if we consider the theory on which this practice is founded, the absolute necessity for accuracy of application becomes evident. If the air abounds in septic germs whose action is the chief cause of putrefaction, and if carbolic acid is to be used as the means of destroying these germs, there are obviously two indications for practice:—first, if air has once entered a wound or cavity that is suppurating, or is about to do so, the germs that have got in with it must be destroyed, and then their further entrance must be prevented.

The first is accomplished by washing out the wound or cavity with a solution of the acid, the second by keeping a layer of putty, made with carbolic acid and oil, enclosed between two folds of calico on the opening of the wound; this requires daily moving, and it should always be removed by placing the fresh layer over the old one, and then drawing the latter away—a moderate pressure being kept up on the new layer, so that it takes the place of the old one without permitting air, uninfluenced by the acid, to enter.

Another method of fulfilling the second indication is to lay a piece of lint, saturated in carbolic acid and oil, over the wound, and this remains, the putty being changed over it every day with less precaution. This plan succeeds admirably where there is no great quantity of suppuration; if the flow is copious the lint becomes loosened, and this lays the foundation of failure.

The strengths I have used are those mentioned in notes of the case of excision. I do not, however, consider that this treatment was as satisfactorily carried out in that case as it might have been. The solution of 1 to 30 of the acid is, I think, too strong for a simple incised wound, and is calculated to prevent any part of it healing by the first intention—at least such is my present impression, but I have not as yet satisfied myself whether a weaker

solution, from a half to a quarter of that strength, might not be used with advantage. But even if the use of the acid were discarded in the treatment of recent incised wounds, there remain other cases in which I have found it most useful.

To give a short sketch of the results of some of these cases is the best way to show what I have found that carbolic acid will do. In the carrying out of this treatment, Dr. Nelson has had the chief part, and indeed it is to his perseverance, after some of our early failures, it is due that we now use it with so much success.

Every bubo treated here since August last has been opened under a rag steeped in carbolic acid and oil, squeezed out under the rag, then the carbolic acid putty applied, over that sheet-lead and a spica bandage; in twenty-four hours the putty has been replaced by a rag similar to the first; any matter that may have accumulated again squeezed out, then fresh putty. This process was repeated daily till no matter came. In no instance had a fifth dressing to be applied, and therefore in no instance did the bubo degenerate into chronic suppuration.

During the same period several abscesses of the neck have been treated in the same way, and have, with one exception, been dismissed from treatment within the same time; in that one case the dressings were left off too soon, the orifice of the opening had not healed, air got in, and chronic suppuration was established, which, however, involved only about the lower half of the original abscess.

In the following case I feel confident that no other line of treatment as yet tried would have produced as good a result:—

F. W., aged thirteen, admitted to the County Down Infirmary 26th December, 1867, for a gunshot wound of the inner side of the left foot, which exposed the metatarsal bone of the great toe; the finger could be passed to a considerable distance across the dorsum of the foot under the skin.

The wound was cleaned, swabbed out with carbolic oil, and dressed according to Professor Lister's directions with rag, putty, and sheet-lead.

December 29th.—On removing the rag there was nothing but a small superficial granulating sore to treat.

The lad left hospital in a few days, apparently quite well.

The next case is one I select, not as being completely successful, but because the acid was used too strongly at first:—

Peter O'H., upwards of sixty-five years of age, admitted on 14th November, 1867. A wheel had passed over his leg, producing an extensive contused lacerated wound, and comminuting the bones. The wound was washed out with a solution more than four times the usual strength. For three days the patient suffered from sharp inflammatory fever and distension of the leg; on the fourth day there was a copious discharge of healthy pus from the wound escaping under the oiled lint. The fever rapidly subsided, and from the 19th November, for three weeks, although the suppuration was free, his pulse was never above 72, and he was perfectly free from constitutional symptoms; there never was the slightest odour of decomposition about the case.

Better results were obtained in the following case:—

J. D., aged fifty-five, admitted 8th February, 1868. Compound comminuted fracture of both bones of the leg, caused by the fall of a plank of 20 feet long, 14 inches wide by 4 thick. The wound was not large; some bone protruded; there was great contusion of the soft parts. The carbolic acid dressings, of the usual strength, were applied within an hour of the accident. There was never more than a few drops of pus on the putty dressing. On February 14th all these dressings were removed, and the case was then, and has since run the course of, a simple fracture.

The last case I shall give is one which, for so far, seems to favour the opinion that this form of dressing is calculated to diminish the necessity for operation in diseases of the joints:—

Anne D., aged forty-seven, admitted 7th January, 1868, with the right ankle swollen, and red fluctuation distinct, pointing anteriorly; the whole joint exquisitely painful; even on the heel she could not bear the least pressure. There was sharp irritative fever; the acute symptoms were of seven weeks' duration.

12th January.—The joint was opened under the defending rag, and about an ounce of pus discharged under the rag; the usual putty dressing then applied.

13th January.—There was about ʒi. of pus on the dressings; pressure, which could now be tolerated, got about ʒss. more.

14th January.—There was merely a small spot of pus on the dressings; a probe, passed under the defending rag and into the opening, impinged on denuded bone.

For two months the pulse ranged from 76 to 84, and the patient

gained in health and strength; each day there was a little discharge on the dressings, more like turbid serum than pus.

After a few days of increased pain, and some constitutional disturbance, a swelling appeared between the outer ankle and tendo Achillis; this was opened on 27th March, 1868, and now, March 31st, seems to have settled down into the same state as the anterior opening; it was, and is, treated in the same way.

Reporting a case like this, which as yet has given no definite result, is perhaps not satisfactory, yet I believe if an acute suppuration in the ankle joint had been treated in any other way, the amount of suppuration would have been greater, and the constitutional symptoms of a much graver character, or rather it could not be expected, after such an operation, there would for two months be almost a complete absence of constitutional symptoms.

I have selected the foregoing cases as being the most instructive, although I have notes of very many more. I am conscious that they are almost a repetition of similar ones already published, but additional evidence on a subject like this, from one who has not a hobby to ride, may be of some use.

This I am confident of, that whoever in this practice bears fully in mind the necessity of accuracy in its application, and takes the trouble to secure it, will be rewarded by the results.

ART. XVII.—*Notes on Herpes, Pemphigus, and Urticaria.* By HENRY SAMUEL PURDON, M D., L.R.C.P., Edin.; L.R.C.S.I.; Physician, Belfast Dispensary for Diseases of the Skin, &c.

HERPES and pemphigus form the connecting link between erythema, on the one hand, and urticaria on the other. In erythema both the corium and cellular tissue are infiltrated with fluid, and which many pathologists consider to be exuded through the walls of the capillary blood vessels;[a] from this cause, the epidermis may be raised, either in the form of vesicles or blebs, the former in connexion with the distribution of particular nerves, being called herpes, and the latter from its size, pemphigus. Mr. E. Wilson has remarked that "pemphigus may be complicated with herpes; indeed the smaller

[a] The exudation that we meet with is essentially composed of that material which is generated by the altered condition of the inflamed part, and of the transuded fluid which escapes from the vessels."—Virchow's Cell. Pathol., page 356.

bullæ of this disease bear a considerable resemblance to the vesicles of herpes phlyctenodes, and the likeness to herpes is still further increased by the occasional appearance of the small bullæ of pemphigus in the form of rings."[a]

Vesicles are defined by Hebra to be "elevations of the horny layer of the epidermis by transparent, or milky fluid . . . An essential character of the vesicle is its size, for only those elevations of the epidermis which are in size between a lentil or a millet seed, receive this appellation; all those larger are reckoned as bullæ." This latter elementary lesion is considered by the same author to have its seat in the epidermis, between its mucous and horny layers, and are found "both at the aperture of the hair-sacs and in the inter-follicular spaces, blebs or bullæ are distinct from vesicles, *simply by their magnitude.*"[b]

Like erythema, herpes and pemphigus are diffuse eruptions usually appearing over a considerable extent of surface at once. Pemphigus resembles urticaria, and which, according to Hebra, "not only in its acute, but even in its chronic form, sometimes presents the peculiarity that instead of wheals, bullæ are found at certain spots. But no one need be astonished at this exceptional occurrence, who bears in mind, that wheals themselves result from the pouring out of serum, and that an *increase in the quantity of fluid* is all that is necessary to raise the cuticle over a wheal, and to form a bleb. That this was known to the older authors, is proved by the expressions, *urticaria vesiculosa*, *urticaria bullosa*."

In urticaria, the redness of the cuticle surrounding the wheals is due to hyperemia, the elevation of the epidermis, which is called a wheal, to fluid, and this latter state was considered by the late Dr. A. B. Buchanan, to arise from a circumscribed œdema of a cluster of capillary loops springing from a common stem, and under the influence of a common nervous twig. That the wheals in urticaria contain fluid, has been proved by the simple experiment of G. Simon, who passed a needle into one, and subsequently observed fluid to ooze from the puncture. The vesicles of herpes zoster are nothing more nor less than small bullæ, and the only difference between this disease (herpes) and urticaria, is that in the former the œdema ends in serous exudation, which elevates the cuticle in the form of vesicles, or small bullæ, whilst in the latter the effused fluid is in less quantity, not so superficial, and gives rise to the appearance known

[a] Diseases of the Skin, Second Edition.

[b] Hebra on "Diseases of the Skin."—New Sydenham Soc.

as wheals. Moreover, herpes zoster resembles urticaria in its connexion with the nervous system, being now understood from the observations of Dr. V. Bärensprung, to be occasioned by irritation of the spinal ganglia, the posterior roots being implicated. Whilst urticaria in the majority of cases is a reflex irritation, proceeding from some important organ, usually the stomach or uterus, and under the control of a plexus of the sympathetic system of nerves. The exciting cause of herpes or pemphigus may be from exposure to cold and wet; pemphigus being often observed in barge and lighter-men, who are, from their occupation, frequently wet for hours, especially their lower extremities. In these individuals the cutaneous eruption is often of mixed character, if I may so express myself, viz.: bullæ and vesicles, when the latter, a considerable area of the skin may be covered by the eruption. The origin of pemphigus in these men is considered to be due to cutaneous imbibition, but I think that exposure to cold and wet, which paralyses the nerves of the part, and the capillary vessels thus loosing their tone, allow the escape of the more fluid parts of the blood, is most probably the chief cause.[a] That herpes may arise from exposure to cold is well known, as the following case testifies:—

Mr. Thomas W——, aged thirty, employed in a merchant's office, consulted me, on March 3rd, 1868, for an eruption of herpes zoster on the left side of his abdomen. The account which he gave me of the appearance of the eruption was, that being over-heated from exercise a few days ago, he exposed himself to a draught of cold air, after which he felt a little chilly. In a couple of days the present eruption appeared, preceded by neuralgic pains.

Again, the following case, taken from a paper on the *Correlation of Cutaneous Exanthema with Neuralgia*, by Dr. Woakes, *Journal of Cutaneous Medicine*, Vol. i., page 279, is interesting.

"A little girl, aged three and a-half years, took a long journey in a waggonet during the prevalence of a cold north-easterly wind. Though well covered with a rug in front, it escaped observation, that the seat against which the child leaned was open at the back (as is usual in this kind of vehicle), and the short skirts of the child resting on the seat, allowed an almost uninterrupted admission of

[a] According to Dr. Brown-Séquard—Lancet, Nov., 1858—if the nervous supply of a part be injured the blood vessels become dilated, and the temperature of the infected part is increased.

cold air to her waist. The following day, though previously in good health, a dense streak of herpes began to make its appearance round the left half of the body, about the line of junction of the child's skirts and the more closely fitting portion of its attire."

Derangement of the digestive organs, suppressed menstruation, &c., have caused the appearance of herpes and pemphigus, either singly or together; in fact, the same set of causes as in urticaria, only that this latter disease is more intimately connected with the function of digestion and assimilation. Pemphigus usually occurs in debilitated subjects, frequently from intemperance, is secondary to some constitutional derangement, and has been observed to co-exist with urticaria indeed; Hebra has described a case of urticaria in which several of the wheals passed into bullæ.[a]

The vesicular eruption of herpes is frequently preceded by neuralgic pains, and I have observed the truthfulness of an observation of Hebra's, viz., that the first formed cluster of vesicles is always nearest the nervous centres, and that those which subsequently develop themselves lie more towards the peripheral distribution of the corresponding nerves, that herpes has no connexion with special anatomical situations, may be proved by anyone who has watched the development and course of this disease. The same remark applies to pemphigus, this latter affection occasionally occurring on the hard and horney cuticle of the hands and feet. Allusion has been made to the fact that herpes zoster is frequently preceded by neuralgic pains in the part about to become affected; and it is interesting to note that Heberden in his *Commentaries*, appears to have been aware of this fact, as in the following case:—"In a woman more than fifty years old, the herpes appeared upon the right clavicle, together with fever and pain throughout the whole right arm; the eruption and fever continued some weeks, but the skin remained scaly for several months, and the whole arm became gradually weaker till it lost all power of motion, and in this state continued at least for three years and probably her whole life. The fingers were constantly in an involuntary tremor." In the late epidemic in Dublin of cerebro-spinal meningitis, herpes and pemphigus were observed complicating the disease. Dr. Grimshaw in a paper contributed to the *Journal of Cutaneous Medicine*, No. 5, p. 37, describes two cases of phlyctenoid eruption, occurring during that epidemic. The first case was admitted into the Cork-street Fever Hospital, on February

[a] Allg. Wien. Med. Zeitung, 1858, No. 2.

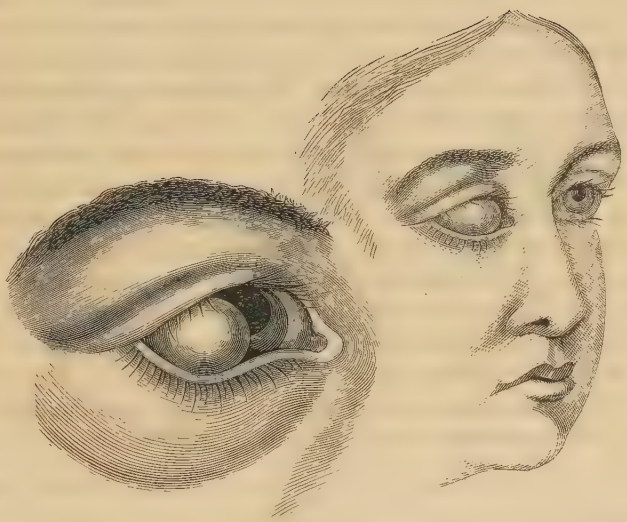
22nd, 1867; the patient was a female, and had previously two attacks of a vesicular eruption, "which, from the description given by herself, must have been herpes; the second of these attacks was about two years ago." The report goes on to say, that the face on admission was covered with vesicles, surrounded by a black areola, as if a line of ink had been drawn round the vesicles; a large bulla was situated on the right hand, movable under the cuticle, the arm, abdomen, hips, nates, and sacral region also presented vesicles, a few being likewise seen on the left leg; pulse 140; temperature in the axillæ 105°. The second case was that of a female child, aged six years, who, after being admitted into hospital, presented on the 12th day a phlyctenoid eruption on the face, accompanied by rigors. On the 14th day large vesicles appeared over the whole of the left side of the chest and upper part of the abdomen on the same side, no bullæ or vesicles on the right side. The bullæ ranged from half an inch to one inch and a half in diameter. This case, Dr. Grimshaw further remarks, "is interesting as a meningitis case, accompanied by the eruption of pemphigus, as well as the more usual eruption of phlyctenæ. It is remarkable that all the bullæ of the pemphigus occupied the left side; all the small abscesses which formed towards the termination of the case were on the right side of the body."

It will be evident from the preceding remarks, in which the observations of other authors are freely made use of, that the nervous system, the importance of which when deranged in occasioning disease, is daily becoming more recognized, plays a considerable part in causing the appearance of various cutaneous affections.

Art. XVIII.—*Case of Tumour of the Eyeball.* By J. G. Hildige, F.R.C.S.I.

The following case of tumour of the eyeball seems to me to be of peculiar interest, inasmuch as it points out the necessity of operating as early as possible in the course of the disease, while it shows, at the same time, that a tumour may remain quiescent for a long period in this locality, and eventually take on rapid growth so as to endanger the sight of the eye, and otherwise affect the patient generally.

Miss R——, aged nine, of a tolerably strong and healthy appearance, was brought to my house in the latter part of the year 1865, suffering from a wart-like tumour of the size of a large pea, which



was firmly attached to the external portion of the sclerotic and margin of the cornea of the right eyeball. The disease, according to her mother's statement, was congenital, and for a long period after birth did not make any perceptible progress; latterly, however, the tumour had gradually commenced to extend, not only in the direction of the cornea, but also to protrude to a greater extent from the eyeball. On examination I found it to be of a cartilaginous and extremely elastic nature, partially collapsing on pressure, so that I was at first disposed to think that it communicated with the interior of the eyeball. Further examination, however, convinced me that this was not the case. It was of a dull-greyish colour, with one or two small hairs growing near its apex, this portion of it protruded from the eyeball in such a manner that it was with difficulty the eyelids could be completely closed. The conjunctiva was reflected from the sclerotic to the sides of the tumour, where it gradually became changed in structure, and eventually lost in the growth itself. The whole mass was so firmly attached to the surrounding tissues, that when pushed or drawn aside with a forceps the eyeball moved with it, so that it almost formed part and parcel of the globe itself. The sight of the eye was not in the least impaired, the patient being able to read small type fluently, and to accommodate for near and distant objects perfectly.

As there was every probability that the disease would now continue to progress, and consequently impair, and, perhaps, destroy vision, and as the appearance of the eye was extremely repulsive, I advised the immediate removal of the tumour, the child being strong and otherwise healthy.

The child's mother, who was an extremely nervous person, became greatly alarmed at the idea of an operation, and declined to follow my advice; she, however, consulted two other physicians, and, as one of them was in favour of an operation, and the other opposed to it, she resolved to adopt the advice of the latter, and consequently took the child back to the country.

More than a year elapsed before I had an opportunity of again seeing the little patient, when, in the month of March, 1867, she returned to Dublin for medical advice. The tumour had increased considerably since I had last seen her; it now protruded so far between the eyelids that the eye was kept constantly open, although, strange to say, the eyeball was not in the faintest degree irritated from the constant exposure. It had also extended so far over the cornea that about one-fifth of the external or temporal side of the

pupil was covered by it. The child, in her attempts to see past the tumour, had induced internal or convergent strabismus to the extent of about one line and a half; this, however, might also have been produced more or less by the pressure of the tumour on the external rectus muscle, causing partial paralysis of its nervous supply. In appearance the growth now resembled a tolerably large unripe cherry, which threatened very soon to cover the whole of the eyeball. The sight of the eye was still good, the power of accommodation, however, was not so perfect as it had been on her former visit, and the field of vision was, as a matter of course, narrowed considerably.

The mother was now as anxious to have the operation performed, as she previously had been averse to it; it was, therefore, arranged that the operation should take place on the following day, a drawing having been first taken of the eye as shown in plate.

The child having been placed under the influence of chloroform, and the eyelids separated by means of retractors, I seized the tumour with a strong toothed forceps, and with a cataract knife attempted to separate it from its attachments. It was, however, so cartilaginous and elastic, that after several seconds I was obliged to give up the attempt, as the knife made no more progress through it than if it had been a piece of hard thick leather.

At the suggestion of Mr. Wm. Colles, who was present, I then tried a pair of strong curved scissors, and with this instrument I succeeded, with very great difficulty, in removing it. Before I had got half way through the base of the tumour, however, I found that that portion of the cornea on which it was seated had become so thin, that there was the greatest possible danger of an escape of the aqueous humour. Happily this did not occur, and the operation was completed without the slightest accident, the site of the disease showing an oval shaped opaque discolouration, the coats of the eyeball being here atrophied and degenerated to an extreme degree.

The removal of the tumour was not immediately followed by any inflammation or irritation, and the case proceeded extremely favourable during the ten or twelve days succeeding the operation; at the end of which period, however, the disease commenced to show a decided disposition to return, the opacity which occupied the site of the tumour becoming elevated above the surface of the eyeball, and presenting a vascular and granular appearance. Under these circumstances I decided on cauterizing the whole granulating surface with the solid nitrate of silver, which was followed with the best

results, and at the end of a few days, all trace of granulation had disappeared, the elevated portion of the growth becoming again on a level with the eyeball, and presenting a healthy aspect.

Four months after the operation, the state of the eye was as follows:—The seat of the tumour presented the same opaque discolouration of sclerotic and cornea, and was not at all diminished in size. It was covered with the conjunctiva and had the same glistening appearance as the rest of the eyeball. The eye was turned inwards to the extent of one line and a-half, forming a permanent strabismus convergens. The sight and power of accommodation were but very slightly affected, and the field of vision only narrowed in its external or outward portion. Whether the opacity of the cornea will eventually diminish in extent, or become more transparent, is a question which time alone can solve. I had no opportunity of making a microscopic examination in this case, as the tumour was mislaid immediately after the operation. The left eye was not at all impaired.

I find this disease has been variously denominated by different writers. Himly, for instance, calls it chondroma conjunctivæ; Graefe, lipoma crinosum; and Mackenzie, sarcoma of the conjunctiva. Professor Arlt classes it under the head of warts, and states that it is always congenital, and that out of five cases which had come under his observation, the tumour occupied, in four of them, the internal and inferior portion of the eyeball; and, in one, the external portion. He also relates a case which so closely resembles that which I have just been attempting to describe, that I feel it will not be out of place to give its details here, slightly abbreviated.

Anna Herbae, aged twenty-four, has a wart on her right eye of precisely the same nature as the ordinary congenital warts which occur on the face. The greater part of the growth is seated on the sclerotica, and a small portion of it on the external part of the cornea, towards the outer angle of the eye. From without inwards it measures five lines, from above downwards four lines, and at its most elevated point it is over two lines. It is of the same colour as the external integument, and has a number of short brown hairs growing from it. Towards its apex it is quite dry; it is hard and compact to the touch, elastic, free from pain, and slightly movable. It is impossible to close the eyelids completely, owing to the size of the tumour. About three-fourths of the cornea are free, perfectly transparent, and of normal curvature, and all other parts of the eye are healthy, the sight being, however, slightly

impaired. The disease is congenital, and has only commenced to increase materially during the last seven years of her life. The instruments I made use of at the operation were a forceps, scalpel, and scissors, and it was attended with considerable hemorrhage and pain. I found the sclerotic and cornea underneath quite unimpaired, the growth being so firmly attached to the former by means of a short strong cellular tissue, that I had considerable trouble in completely removing it. At the periphery of the cornea, the growth was more closely attached to this membrane than at any other portion of it, and with this exception it was here easily detached, the cornea appearing under it transparent, neither depressed nor elevated, and covered, at the points of separation from the tumour, with numerous specks of blood. Under the employment of cold applications the surface of the wound became covered with a quantity of thick, whitish matter, similar to pus, and after a few days granulations rapidly sprang up. After six days the conjunctiva bulbi commenced to cover the wound from the circumference to the centre, and encircled the now extensive granulation, which I was obliged to cauterize with the solid nitrate of silver. The portion of the cornea on which the growth was seated, became gradually opaque, shining, but not smaller, and the patient at the end of four weeks went home, before, however, the wound had quite healed. On microscopic examination, all three layers of the external integument, epidermis, corium, and panniculus adiposus, were shown, numerous hairs being also observed. The size of the wart was materially influenced by a rich deposit of fat in the larger meshes of the cellular tissue, which formed its inferior layer towards the outer angle of the eye.

ART. XIX.—*Clinical Reports and Observations on Medical Cases.* By J. T. BANKS, M.D., Physician to the Richmond, Whitworth, and Hardwicke Hospitals.

DURING the present session there have been many cases in the medical wards of Sir Patrick Dun's Hospital which seem to me worthy of attention, and which have been reported with much care and accuracy by Mr. J. W. Moore, the resident medical scholar. The first case I propose to place on record is one which presents some points of great interest, and the history of which Mr. Moore was able to trace from an early period, an advantage rarely obtained in investigating disease in hospital practice.

Cardiac Disease—Embolism—Paralysis.

A girl, aged sixteen, was admitted into Sir P. Dun's Hospital, October 6th, 1867.

History.—Enjoyed good health to the age of eight years, when she suffered from an attack of rheumatic fever. From this illness she apparently quite recovered, but she experienced some annoyance from an inability to take any violent exercise without being instantly "out of breath." Her health, however, continued good until some two years ago. At this period she was in great grief for her father who had lately died, when one night she fancied she saw him. She screamed loudly, became convulsed, and fell paralysed to the ground.

From this time she remained hemiplegic on the left side. Subsequently, too, the convulsive attacks returned at indeterminate intervals, and with gradually decreasing severity, till at last they ceased altogether. She mentioned that during these fits she was wont to remain perfectly conscious. The paralysis did not affect the face to any extent; the arm was, however, from the first, quite powerless.

She was, soon after this attack, admitted into an hospital, where she stayed for some considerable time without experiencing any material benefit. Towards the end of March, 1867, she went to the Meath Hospital. At this time the left hemiplegia was perfectly established, considerable atrophy of the extensors of the forearm existed, and the limb presented all the characteristics of "dropped wrist." On examination of the chest there was detected a well-marked double murmur over the base of the heart. This bruit was carried into the carotids and subclavians. At the Meath she remained under Dr. Hudson's care for some time. She was finally admitted to Sir Patrick Dun's, under Dr. Banks's care, in the beginning of last October.

State on admission:—In appearance she was short and small for a girl of her age. There was noticeable a trifling asymmetry in the face, the left side slightly dragging over the right towards it. The pupils were dilated—the right especially so—yet the patient said her sight was good. There was no appreciable deviation of the tongue in protrusion. Speech was in no way affected, nor the powers of mastication lessened. As regards the upper extremities, the right arm was normal in every respect. The left, on the contrary, was almost powerless. The muscles of the anterior aspect of the limb were apparently healthy, but the biceps and all the

extensors had suffered severely. The appearance of the wrist was peculiar, since it was at right angles with the fore-arm; in fact, presenting in detail the characters of the "dropped wrist" of saturnine paralysis. The fingers were strongly flexed on the palm of the hand, and the thenar eminence was greatly reduced in size from atrophy of the muscles of the thumb. The sensation did not seem altered in the affected limb, nor was the temperature in the left axilla at variance with that in the right. Of the lower extremities, suffice it to say the right limb was healthy, the left partially paralysed, yet not in any wise to such an extent as the left arm. The great toe was strongly flexed on the palmar aspect of the foot. In walking, the left leg described an elliptical curve. Such were the paralytic appearances.

Connected with the *circulatory system*, the following points of interest presented themselves:—

First.—The heart's impulse was visible over a large extent of surface; it was also very strong. On laying the hand upon the chest a well-defined "fremissement cataire" was perceived.

Secondly.—A visible pulsation of the carotid vessels was noticed; the vessels of the arm also pulsated visibly; the region of cardiac dulness was enlarged; auscultation revealed the existence of a double post-systolic murmur, which was most intense to the left and at the base of the heart. This murmur was carried a considerable distance into the great vessels; the pulse afforded a well-marked example of the "collapsing" form, the sensation caused by it being that of a hard round substance rolling against the finger and then retreating; there was also a curious "kick" or jerk in it; the rate of the heart's action was normal, being about 80 per minute.

The general health of the patient seemed good; no complaint was made of head disturbance, or any constitutional lesion; occasionally slight palpitations of the heart took place; menstruation had never occurred; and the breasts were but little developed for her age.

On Monday, December 9th, the patient was seized at an early hour with violent palpitation and considerable dyspnea. These symptoms were soon followed by great nausea and some dry retching. During the next 48 hours these urgent symptoms increased greatly.

At 9 a.m., December 11th, she seemed rapidly sinking, only a single murmur was now audible; the visible pulsation of the large vessels had disappeared, and the pulse had become intermittent

about every seventh beat; it now rose to 120; there was great dyspnea, and the face began to assume a livid tinge. At 10 a.m. the pulse failed entirely; the heart's action grew weaker and weaker; and loud râles were audible over the chest. The patient became unconscious; a peculiar sighing or groaning occurred, and death supervened in a short time.

Post mortem examination (ten hours after death) conducted by Dr. Bennett.—Rigor mortis well marked, but to a slight degree less so on the left side; the abdominal viscera were healthy, except the liver, which was a little enlarged; the uterus was quite undeveloped, and there was no evidence of an ovum ever having escaped from the ovaries; the thoracic viscera were next examined—the lungs were healthy, without a trace of tubercle; some old adhesions existed on the left side posteriorly; the pericardium was large; and the heart appeared considerably hypertrophied; no abnormal quantity of fluid was found in either the pleuræ or the pericardium; the right auricle and ventricle were free from blood; the mitral orifice was much contracted, and had been so to all appearance for a long time; the valve was adherent around; the aortic opening was patent, and the valves were thickened and hardened; indeed, on the valves of both aortic and mitral orifices were traces of recent inflammatory action; one of the aortic valves had fallen back, and a large and firm coagulum filled the opening. To this state of things we must look for the immediate cause of death. The aorta itself was throughout sound, if we except its origin, where there were lymph deposits of a recent date.

The carotid vessels were very different in appearance on the two sides.

The right common carotid was not much more than half the size of the left in calibre. And this difference was still better seen in the internal carotids. The right was reduced to a minimum, but was still pervious to the place of its entering the brain.

At the base of the brain were trifling adhesions. The carotid vessel near the "circle of Willis," on the right, was extremely small.

The *examination of the brain itself* gave the following results:—The right "centrum ovale minus" of the cerebrum was found much indurated at the junction of the anterior and middle thirds. The right artery of the "corpus callosum" was partially obstructed opposite that substance. On cutting into the roof of the right

lateral ventricle, there was seen a cyst of the size of a filbert, containing a thick and turbid serum. This cyst (an example of that described by Rokitansky) involved the posterior portion of the corpus striatum, but did not open into, or communicate in any way with, the lateral ventricle itself. Across the centre of the cyst itself stretched a fibrous band, apparently an occluded blood-vessel, and probably a branch of the middle cerebral.

A *microscopic* examination showed that the fibres of the contracted muscles of the paralysed limbs retained all the characters of healthy muscle. No evidence of fatty degeneration was apparent.

It is manifest from the details of this case that the starting point, the first link in the chain of morbid action, is traceable to the rheumatic fever which seized the child at the age of eight years, and laid the foundation of disease which ultimately proved fatal. We have no means of knowing the particulars of the rheumatic fever, but it may be assumed, as a matter of certainty, that cardiac disease had its origin at this period, from inflammation of the endo-cardium. The cardiac complication was probably overlooked, but the observation which was made, after the child had apparently quite recovered, that she became breathless on taking exercise, abundantly testifies to the fact of the heart having suffered in the rheumatic fever.

Her health we find, with the exception of the inability to take part in the active exercise of children of her own age, was good until two years before she entered the hospital. Then came the strange event in the history of the case—the sudden seizure, the convulsions, the apparition of her father, whose recent death had deeply preyed upon her mind, and the termination in hemiplegia of the left side. That the obstruction of a vessel by the transportation of a fragment of the excrescences on the aortic valves was the cause of the cerebral disease appeared sufficiently plain. The order of events being—rheumatic fever, complicated with endocarditis, embolism, cerebral disease, and paralysis. The paralysis was permanent, but the convulsive attacks, which for some time occurred at uncertain periods, finally ceased; and here it may be mentioned that the girl, who was perfectly intelligent, and who gave a very clear account of her illness, stated that during the convulsive seizures she retained complete consciousness. The atrophic condition of the paralysed arm is an interesting feature in the case, and its limitation to the extensor muscles, thus resembling the alteration in the muscles produced by saturnine paralysis, so different from the general wasting

so common in ordinary paralysis. The signs of aortic patency were peculiarly well marked, and it is noted that they disappeared for some time before death—a phenomenon I have frequently observed in insufficiency of the aortic valves. With extensive disease, and a state which must lead to a fatal issue sooner or later, the death, nevertheless, was, so to speak, sudden and unexpected.

Up to forty-eight hours before her death there was no symptom to indicate her approaching end; her condition was in no respect different from what it had been for a considerable time. In the whole course of the disease the mind was perfectly unclouded.

Pleural Effusion.—Thoracentesis.

Case II.—A sailor, aged twenty-four, was admitted into Sir P. Dun's Hospital on the 9th of December; he was a young man of strong build, and his health had been uninterruptedly good until two days before his admission, when he sustained a severe fall on his back on board ship. Not many hours after the receipt of the injury he experienced a severe pain and soreness of the left side; he had rigors followed by some amount of pyrexia. On admission the symptoms were by no means urgent, there was slight cough with soreness and sense of general uneasiness but no dsypnea.

On examination of the chest the following physical signs were found to exist:—The left side dull over its whole extent, both anteriorly and posteriorly, but the dulness did not transgress the median line. The intercostal spaces were obliterated; the respiratory murmur was absent over the left side from apex to base, and there was no vocal fremitus. The side was perfectly motionless. The heart was displaced towards the right side, its impulse being perceptible and the sounds audible in the median line. There was puerile respiration on the right side. On this day, the 9th of his illness, the pulse was 104, the temperature 103·6°, and the respiration only 24. The following day the pulse was 106, respiration 28, temperature 101·5°; complete dexiocardia, the impulse of the heart being felt one inch to the right of the sternum. Measurement of the chest gave the following results:—

Right side, 17¼ inches; left side, 18 inches.

11th day.—The heart two inches to right of sternum; bronchial râles over the right lung but no increase of pyrexia.

On the following day the pulse and respiration had risen; the temperature also was higher; bronchial râles were audible over the right lung; the dyspnea had become more distressing, and

there was considerable anxiety. The ordinary means to produce absorption having failed, it was determined to resort to an operation. This was performed by Dr. Bennett, and forty ounces of straw-coloured serum (sp. gr. 1020) were drawn off. The relief was immediate and most marked. The pulse fell to 72, and the respiration to 24. The breathing easy and tranquil, and the patient soon fell into a quiet sleep. The progress of the patient, from the date of the operation to the establishment of convalescence, was uninterrupted; therefore it is needless to give details of the case from day to day until his departure from the hospital. The bronchitis of the only lung he had to breathe with rapidly yielded, and the amelioration of all the symptoms which had existed before the fluid was removed was very remarkable.

It is not my object at present to enter into a consideration of the treatment of pleural effusions beyond the question of the operation of thoracentesis. As many physicians still entertain strong objections to the operation of thoracentesis, it appears to me that the publication of cases in which this operation has been resorted to, affords the best means of removing prejudices on the subject. Fully impressed, from experience, with the fact that many cases of pleural effusion, the result of acute inflammation, yield to treatment judiciously carried out, I am at the same time persuaded that life is frequently lost by abstaining from operative interference, either altogether or postponing it until too late. I can recall to mind no inconsiderable number of cases which terminated fatally, and which I think might have been saved. The more extensively practised is thoracentesis the more firmly will the value of the operation be established, and we shall then no longer hear of the danger of the entrance of air into the pleura and other objections which in point of fact have no real foundation.

The experience of many of the most accurate observers at home and abroad is favourable to the operation, and pre-eminently may be mentioned Trousseau, who has brought forward a mass of evidence to support of his opinion, which is of incalculable value. Once persuaded that pleural effusion is progressing, notwithstanding the employment of all the ordinary means which have succeeded in many instances, the sooner we remove the fluid and relieve the patient the better, and the more likely is it that we shall succeed. No need to wait for the presence of the group of symptoms which authors frequently lay down as justifying thoracentesis; if we wait for these we convert into a paliative what at

Mr. Stokes' Contributions to Practical Surgery.

an earlier period might be a curative proceeding. I would point to the bronchitis in the case under consideration as a reason for an early operation, believing that the presence of any diseased action interfering with the function of the remaining lung urgently demands that we should at once endeavour to arrest the disease. As in the case before us, one operation will often suffice, and the patient's recovery be the result; but we do meet with cases in which after the drawing off of the fluid the effusion again takes place and again the operation is needed. When we are satisfied that the simple operation is not likely to afford any permanent good effect we have still in the drainage tube a means which has frequently proved adequate to save life, even under the most apparently unfavourable circumstances.

And in conclusion, I may observe, that since Dr. Goodfellow brought the practice of drainage in empyema under the notice of the Profession, my own experience strongly testifies to the very great value of the operation.

ART. XX.—*Contributions to Practical Surgery.* By WILLIAM STOKES, jun.; Surgeon to the Richmond Surgical Hospital; late Surgeon to the Meath Hospital and County Dublin Infirmary; Lecturer on Surgery Carmichael School of Medicine; Fellow of the Royal Medico-Chirurgical Society of London, &c.

On a Remarkable Case of Gunshot Injury of the Orbit resulting from the Bursting of a Fowling-piece, in consequence of which the Screw and Portion of the Breech striking in the first instance the Right Superciliary Ridge, and taking a direction Downwards and Inwards, completely destroying the Eye, and passing through the Floor of the Orbit, were eventually lodged in the Cavity of the Right Nasal Fossa. Plastic Operation successfully Performed.

THERE is no class of wounds of the eye or orbit which are of greater interest and importance, and therefore better entitled to careful consideration on the part of the surgeon, than those resulting from gunshot injuries; and the particulars of the case, which we shall presently discuss, affords another remarkable example of the great frequency with which the eye and its appendages are injured when only a single shot strikes a person. This singular liability of the eye being so frequently the seat of these injuries has been

noticed by Mr. Cooper and other writers on injuries of the eye. Of these, that which is produced by the bursting of a gun and the lodgment of a portion of it in or in the immediate vicinity of the orbit, is obviously the most formidable accident; and, in truth, the fact of the gunshot injury in the case we are about to discuss not having terminated fatally, is in itself a matter of no small surgical interest. Records of a few similar cases are to be found. One in which the result was, like mine, favourable, is mentioned by Mr. William Cooper in his admirable work on *Injuries of the Eye.* The particulars of the case are quoted from Beck's *Medical Jurisprudence.* The case was one of a man who had his eye blown out by the bursting of a gun. "The surgeon dressed it, and on the second dressing he perceived something hard among the injured substance of the eye. He found this to be metallic, and, getting hold of it with his forceps, pulled it out, when, to his surprise, he found it was the breech of the gun which had been forced backwards by the recoil and been jammed into the orbit. Notwithstanding this extensive injury, which annihilated the eye, the man made a perfect recovery."

Dr. Keith, the deservedly eminent surgeon of Aberdeen, has also recorded a remarkable case of this sort, in which the breech of a gun was lodged for four months below the right eye and across the nose.[a] The patient, James S., aged nineteen, stated that while shooting on the morning of the 19th February, 1857, on the sea cliff near Aberdeen, his fowling piece burst. "He stood stunned for a minute and then fell to the ground quite insensible, and so continued for about half an hour. When consciousness returned he found himself in a farm house, and then in the course of another half hour was seen by a surgeon. He had bled very freely all this time from a large and deep wound in his face between his eyebrows and just below that level into the very root of his nose. The wound extended from below the right eye, across the root of the nose, and into the left orbit, lacerating the lower eyelid and utterly destroying the left eyeball. The bones of the jaw proper seem to have been so far separated from the os frontis, that the patient is positive the surgeon applied one hand under his chin and the other on the crown of his head, and pressed them forcibly together."

On June 25, four months after the accident, the foreign body was successfully extracted by Dr. Keith. Before doing so the

[a] Medical Times and Gazette, Oct. 23, 1858.

nasal bones had to be widely separated, and the piece of metal, which formed the breech of a fowling piece, weighing two ounces and five drachms, and measuring two inches and a half in length, was extracted. The thick or screw-bolt end entered first, and penetrated so far as to allow the very tip of the screw-plate to be covered in by the skin of the nose. There was no profuse hemorrhage during the operation. The case ultimately did very well, and an artificial eye having been adjusted, it was "difficult to discover that anything very serious had ever befallen him."

A somewhat similar case is detailed in the *Edinburgh Monthly Journal* for September, 1856, by Dr. James Fraser, of St. John's, Newfoundland. In this case the foreign body, which was a large coarse breeching of a common musket, was lodged in the right superior maxilla, and after remaining there for a period of eight years, was removed by Dr. Fraser, and the case ultimately did well.

A case in which this accident occurred was under observation in the Richmond Surgical Hospital many years ago, under the care of the late Dr. Hutton. The case terminated fatally, as might well be expected from the extensive nature of the injury, and the preparation of the fractured bones of the face and head, as well as the missile, are carefully preserved in the magnificent pathological museum which is attached to the hospital. The injury was caused by the bursting of a gun two hours previous to the patient's admission into hospital. A portion of the breech of the gun struck him on the superciliary margin of the left eye, producing a compound comminuted fracture of the skull. Several splinters of bone and portions of the stock of the gun were driven into the brain. We learn from the description of the preparation in the catalogue of the museum that when he was admitted into hospital the patient had rigors, the surface of the body was cold, pulse slow and weak, the respirations were sixteen per minute and unaccompanied by stertor; he answered questions rationally, but in monosyllables. A profuse hemorrhage followed the removal of some of the splinters of bone and wood from the brain. Symptoms of delirium set in shortly after the patient was admitted, and he was obliged to be forcibly restrained. Seven hours after admission his pulse was 70 per minute and respiration without stertor. Upon the morning after the occurrence of the accident he had delirium ferox; his pulse was 120 and feeble; he screamed so as to be heard in all parts of the hospital; his pulse rose to 150, and he died in thirty-six hours after the receipt of the injury. The pupils were

never unnatural throughout, and he had no convulsions. The left nostril was insensible to the most pungent odour.

As this case is one of such interest I feel that no apology is necessary for giving so many of its details. The full particulars of the case are graphically described in the catalogue of the Richmond Hospital Museum by my distinguished colleague Professor R. W. Smith.

Any record, however brief, of this class of injuries would be obviously incomplete without reference to the celebrated case of Lieutenant Fritz, to which reference has been made by several writers, and the full particulars of which are given at length by Sir James Simpson in his work on acupressure, as a case strikingly illustrative of the tolerance of living structures for the presence of metallic bodies. Sir J. Emerson Tennent in his work on Ceylon thus describes this classical case:—

"Among extraordinary recoveries from desperate wounds I venture to record here an instance which occurred in Ceylon to a gentleman while engaged in the chase of elephants, and which, I apprehend, has few parallels in pathological experience. Lieutenant Gerard Fritz, of the Ceylon Rifle Regiment, whilst shooting at an elephant in the vicinity of Fort Macdonald, in Oorah, was wounded in the face by the bursting of his fowling-piece on the 22nd January, 1828. He was then about thirty-two years of age. On raising him it was found that part of the breech of the gun and about two inches of the barrel had been driven through the frontal sinus, at the junction of the nose and forehead. It had sunk almost perpendicularly, till the iron plate called the tail-pin, by which the barrel is made fast to the stock by a screw, had descended through the palate, carrying with it the screw, one extremity of which had forced itself into the right nostril, where it was discernible externally, whilst the beaded end lay in contact with his tongue. To extract the jagged mass of iron thus sunk in the ethmoidal and sphenoidal cells was found hopelessly impracticable; but, strange to tell, after the inflammation had subsided, Mr. Fritz recovered rapidly, his general health was unimpaired, and he returned to his regiment with this singular appendage firmly imbedded behind the bones of his face. He took his turn of duty as usual, attained the command of his company, participated in all the enjoyments of the mess room, and died *eight years afterwards*, on the 1st of April, 1836, not from any consequences of this fearful wound, but from fever and inflammation brought on

by other causes. So little was he apparently inconvenienced by the presence of the strange body in his palate, that he was accustomed with his finger partially to undo the screw, which, but for its extreme length, he might altogether have withdrawn. To enable this to be done, and possibly to assist by this means the extraction of the breech itself through the original orifice (which never entirely closed), an attempt was made in 1835 to take off a portion of the screw with a file, but after having cut it three parts through, the operation was interrupted, chiefly owing to the carelessness and indifference of Captain Fritz, whose death occurred before the attempt could be resumed. The piece of iron, on being removed after his decease, was found to measure $2\frac{3}{4}$ inches in length, and weighed two scruples more than two ounces and three quarters. A cast of the breech and screw now forms No. 2,790 among the deposits in the medical museum of Chatham."

This remarkable case is also alluded to in Mr. Guthrie's *Commentaries on the Surgery of the War*, and the full particulars of it were detailed to the Surgical Society of Ireland, on January 18th, 1845, by Dr. O'Callaghan, then Surgeon to the Eleventh Hussars. In the discussion on this case, the late Sir Philip Crampton, who presided, alluded to another case, detailed by Mr. Rogers in one of the earliest numbers of the *Medico-Chirurgical Transactions*, in which the breech of a gun penetrated the cranium, about the centre of the os frontis, lodged and continued to remain in the substance of the brain, yet no one had an idea that any extraneous substance existed there, until after six weeks, when a black hard body appeared in the wound, which, when extracted, proved to be the breech of a gun, and which weighed several ounces. The man recovered perfectly without any loss of his faculties.

Mr. R. Hughes, surgeon to the Stafford Infirmary, also has detailed a case[a] where a portion of the breech of a musket, which burst, was driven through the roof of the orbit so as to bed itself in the brain, and after it had remained there for a period of fourteen months, the patient only occasionally complained of a "sensation of weight in the head, especially on stooping. Neither his sight nor smell were interfered with."

The following case, which came under my observation, adds another to the list of these grave injuries, which, fortunately, are so rarely met with. In this case it appears most likely that the

[a] The Lancet, September 18th, 1858.

patient's life was saved in consequence of the alteration in the direction the breech of the gun took, for, as the outer portion of the superciliary ridge is deeply indented, it would appear as if the foreign body just struck the bone in this situation, and then, instead of passing upwards, or directly backwards, and penetrating the substance of the brain, its direction was altered, and it took a course downwards and inwards, and passing through the floor of the orbit, was finally lodged in the right nasal fossa. The patient was thus saved from the disastrous consequences which would in all probability have supervened and proved fatal, as occurred in Dr. Hutton's case, had the brain been penetrated.

The screw and breech of the gun, which are accurately delineated in their full size, in the accompanying drawing, were extracted without much difficulty, about a week after the accident.

Neil Ruddy, aged forty-seven, was admitted into the Meath Hospital on the 20th January, 1865, having been recommended to me by my friend, Mr. Henry Wilson. A glance at the annexed chromo-lithograph from a drawing executed by the late Mr. Conolly, gives an excellent idea of the deformity which the patient suffered from on his admission into hospital. No trace could be found of the eyeball which had been completely destroyed, and at the lower and inner portion of the floor of the orbit there was a large, somewhat circular or tubular passage about an inch and a quarter in length, extending downwards to the floor of the right nasal fossa. There was no evidence of any diseased bone. The patient's health was very good, but he was greatly distressed by the continual draught of cold air passing through the passage leading from the orbit to the nasal fossa, and which rendered him very liable to influenza. The patient's great desire naturally was, therefore, to have some operation performed, which would have for its object the permanent closure of the passage, and consequent exclusion of the air. Considering that a plastic operation would have the desired effect, and my colleagues also fully concurring in this opinion, I recommended it to the patient, and he willingly acceded. The operation was accordingly performed on January 22nd. I commenced by vivifying the edges of the eyelid, the upper portion of which was found drawn back and, to a great extent, adherent to the roof of the orbit, with Langenbeck's small two-edged bistoury, an instrument specially adapted for vivifying the edges of cleft palates in staphyloraphy and uranoplastic operations. This being done I proceeded to transplant

Mr Stokes' Contributions to Practical Surgery.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Lectures on the Theory and Practice of the Ophthalmoscope. By Henry Wilson, F.R.C.S.; M.R.I.A, &c., &c. Dublin, 1868. Pp. 148.

In the volume before us, Mr. Wilson has published, in a collected form, many of his papers on ophthalmoscopy which have, from time to time, appeared in the pages of the *Dublin Quarterly Journal*, together with much new matter, the substance of clinical lectures delivered on various occasions before the class at St. Mark's, and at the Richmond Hospital. With these materials he has produced a book which, we think, supplies a want for some time felt in English medical literature.

It is now universally acknowledged that the ophthalmoscope is an instrument of much wider application than was at first supposed; that not only has it made of ophthalmology a new science, but that it is capable of throwing much light (and no one can yet say how much) on some of the most obscure diseases which come under the care of the general practitioner. Hence, not only those who propose to devote themselves as specialists to the diseases of the eye, but all students of medicine, whatever branch of the profession they intend to follow, are bound to familiarize themselves with the use of the ophthalmoscope, so as to be able to take advantage of what has been already made out by its means, and by new researches to help forwards that most hopeful branch of science—medical ophthalmoscopy.

But it is impossible for the ordinary student or general practitioner to give the same amount of time to the ophthalmoscope as is given by the specialist; nor is it necessary that he should. Now, the non-specialist has hitherto had no book on ophthalmoscopy. There are excellent works in our language on this subject, notably, Mr. Carter's translation of *Zander;* but these are addressed to the specialist, and are encumbered with details which, while indispensable to the ophthalmologist, are unnecessary for those who do not

desire to devote themselves exclusively to the diseases of the eye. To these latter we think Mr. Wilson's work will be most welcome and eminently useful; while to any one who wishes to pursue the subject further, it will form an admirable introduction to the more elaborate works, whether in our own tongue or in foreign languages. Mr. Wilson aims at simplicity; his lectures are written in an easy readable style, without too free a use of the barbarous technicalities which so abound in ophthalmology as to render a glossary a necessary appendix to many works; there is not a single mathematical formula from beginning to end; and the text is freely illustrated by lithographic plates and wood-cuts, many from original drawings by the author.

The first two lectures are devoted to the theory of the ophthalmoscope, and to a description of the principal modifications of the instrument which are in general use. These have already appeared in our pages, and it is, therefore, unnecessary to notice their contents at any length. We may, however, say, for the benefit of those about to purchase ophthalmoscopes, that Mr. Wilson recommends for ordinary use the small Liebreich; of the fixed ophthalmoscopes he prefers Smith and Beck's modification of Liebreich's larger instrument; and of the binocular ophthalmoscopes he gives the preference to Giraud-Teulon's rather than to Laurence's.

The third lecture is on the anatomy of the parts seen by the ophthalmoscope. A brief and, as far as it goes, correct, account of the anatomy of the vitreous humour, optic nerve, retina, and choroid is given. We think, however, this chapter might have been expanded with advantage. The ignorance among students of the anatomy of the organs of special sense is very great, and the descriptions of these organs given in the ordinary anatomical text books are very imperfect. In ophthalmoscopy it is of the greatest importance to know accurately the histology of the parts seen, for it is as a detector of tissue changes that the ophthalmoscope will probably prove most useful. A fuller account of the anatomy of the optic nerve, choroid, and retina, with drawings, would therefore have greatly enhanced the value of Mr. Wilson's book.

The fourth lecture is on the examination of the eye with the ophthalmoscope. This has already been published in this Journal.

The fifth lecture treats of the anomalies of refraction and accommodation. The diagnosis of the errors of refraction by the ophthalmoscope is chiefly spoken of in this chapter. This method is

unsatisfactory, for the observer must have more control over his own accommodation than most persons possess, and must, moreover, know accurately the condition of refraction in his own eye, and the observed eye must be paralysed with atropine, so as to be sure that the patient is observed in a state of rest of accommodation. Hence, Mr. Wilson is right, when he says, "the beginner will do well in all cases of supposed ametropia to supplement his ophthalmoscopic observations by actual test with the proper glasses." In connexion with irregular astigmatism, Mr. Wilson notices the curious appearance seen in some cases of displacement of the transparent crystalline lens, when two images in the fundus are seen together.

In the next lecture, on the diseases of the vitreous humour, we find a good account of the floating opacities which often cause the troublesome affection known as muscæ volitantes. After a description of the symptoms of this affection, we read:—"When we are consulted about these symptoms we should always dilate the pupil fully, and make a very careful examination of the lens and the interior of the eye before pronouncing an opinion respecting them. The floating bodies generally rise from the sides or bottom of the vitreous chamber in the movements of the eye, and appear, by their direct examination with transmitted light, as more or less dark opaque objects, very often corresponding to the patient's description of them; by incident light with oblique illumination, they appear often of their natural greyish colour." "Simple floating spots are a very common precursor of cataract, or accompaniment of that disease in its early stage; where the cataract has fully formed they disappear, because they are invisible against the dark opaque lens; when the lens is removed and light once more admitted, they frequently again become visible." Hyalitis, effusion of blood into the vitreous, synchysis, foreign bodies, entozoa, and tumours bulging into the vitreous, are described in this chapter. The tumours usually grow from the anterior or middle part of the choroid:—"The vascularity observable on the visible surface of these growths is said to afford a means of recognizing their nature; when the retinal structure is apparent, the vessels straight, few, indistinct, and recognizable as the retinal vessels, the probability is, the growth is benign; if the vessels are numerous, large, gorged, and apparently coming from many points and running in all directions, the disease is likely to be malignant."

The seventh chapter, on the optic nerve, begins with a brief account of the congenital peculiarities of the disc. The great

variability in the aspect of different healthy discs is then dwelt on:—"As the exterior of the eye is scarcely alike in any two individuals, so does the appearance of the optic papilla vary in almost every individual; and I find it a difficult matter even still sometimes to decide from inspection alone whether the nerve under observation presents a normal appearance or not." We are recommended in every case of doubt to investigate the acuteness of vision by Snellen's test type, and to map out the field of vision. Full directions for both these modes of examination are given. Under the head of anemia of the optic disc, Mr. Wilson records a case of embolism of the central artery which occurred in his practice. Total blindness was produced in a few minutes, the second eye having been destroyed by an injury years before:—"The optic disc was of a very pale blueish tint, the arteries had altogether disappeared, and there remained only two or three thread-like veins, which seemed to vary in calibre every now and then; the surrounding fundus was pale, but otherwise healthy, with the exception of a couple of scarcely visible white specks about the position of the yellow spot." It would have been interesting to know the termination of this case, and whether the changes noticed by Graefe and Liebreich in the region of the yellow spot were observed. Mr. Wilson makes the interesting observation, that instillation of atropine frequently produced congestion of the optic disc; hence he advises us, when possible, to examine the fundus before dilating the pupil. Neuritis is very fully described, and its connexion with albuminuria and cerebral disease noted. Mr. Wilson does not believe in the attempts which have been recently made to localize the seat and determine the nature of brain disease by the ophthalmoscopic appearance of the fundus, although he fully recognizes the value of the ophthalmoscope in connexion with other modes of examination in determining that disease of some kind exists somewhere within the head. In this we are inclined to agree; but it must be remembered that medical ophthalmoscopy is in its infancy, and that the workers are few. That most valuable results will be gained by this mode of examination we have no doubt; and if Mr. Wilson's book should be the means of bringing new investigators into the field, he will have done no little service to the cause of medical science.

The occurrence of blindness from the use of tobacco or alcohol is a subject of so much interest that we make no apology for quoting Mr. Wilson's opinion on this point.

He says:—

"I have no doubt of the occurrence of this blindness (tobacco amaurosis), but I have doubts as to its great frequency; it is singular that amongst the thousands, or I may say millions, of smokers, blindness can be so comparatively seldom attributed to the poisonous influence of tobacco. Patients labouring under this malady are scarcely ever seen until the disease has passed through various stages; in a very few instances, which I believe to have been the early stage of tobacco amaurosis, the nerve presented a very slightly swollen pink appearance and partial whitish opacity. I not unfrequently see alcoholic amaurosis in which there is decided congestion and even infiltration of the papilla; it presents a dimmed, soft, swollen appearance, the vessels large, but not as distinct as they should be, the outline of the disc not sharply defined, and the whole fundus congested. This is sometimes, I think, primarily due to choroiditis. The affected person complains of dimness of vision as if a mist or veil was before the eyes. They see best in strong light, but at no distance can they see well. Such persons may recover their sight under suitable treatment and total abstinence."—P. 77.

The remainder of this chapter is taken up with an account of atrophy, apoplexy, and tumours of the optic nerve, and aneurism of the *arteria centralis retinæ*.

The retina forms the subject of the next two lectures, and in them we find a very complete account of the congenital peculiarities, diseases and injuries of this membrane. Considerable space is given to retinitis and its constitutional causes, as albuminuria and syphilis. How the ophthalmoscope has changed our ideas on the subject of acute retinitis is pointed out; the symptoms which were formerly supposed to denote acute inflammation of the retina being now known to be due rather to choroiditis with effusion. The following case is a remarkable instance of the latency of the subjective symptoms of retinitis:—

"I recently attended a patient who presented well-marked neuro-retinitis, whose principal complaint was that he could not distinguish people across the street, and who thought I might perhaps suit him with a different glass to the one he had been in the habit of wearing—and this person was himself a medical man, who, one might naturally suppose, would be more alive to any visual defect than a lay person."—P. 86.

In the lecture on the Choroid we find an account of a disease not much noticed in English works, the *choroiditis hyperplastica*, or *parenchymatosa*. The following observations will be read with

interest by those who have had an opportunity of seeing the ophthalmia which has so frequently destroyed vision in the recent epidemic of purpuric fever:—

"There is a form of choroiditis peculiar, I think, to childhood, which corresponds in many respects to this choroiditis hyperplastica of Stellwag, but in it there is no absolute tumour; the entire fundus appears to become plastered over, as it were, with a layer of lymph, or new cell growth, and presents, even to the unassisted eye, a yellowish-red or greyish-yellow reflection, very similar to, but duller, than the appearance seen in fungus hematodes. There is little or no external indication of the internal mischief, and the peculiar reflection or the blindness may, perhaps, be the first and only symptom to attract attention to the eye. The iris soon becomes slightly discoloured, its pupil immobile, and the eye acquires a blind look, an appearance not easy to describe in words, but soon practically recognized by the observant student. I have seen this choroiditis most frequently after severe scarlatina and measles, and have observed its occurrence during the recent epidemic of cerebro-spinal meningitis. There is sometimes lachrymation, conjunctivitis, and slight pink zonular vascularity, but there is often an absence of any symptom which would point to the existence of so very grave a disorder. In one of these cerebro-spinal cases which I saw at an early stage there was no reflection from the fundus on ophthalmoscopic examination; the pupil was, however, immobile, though not closed, or even contracted, vision was extinct, and the peculiar yellowish reflection subsequently made its appearance, and finally the globe became soft and phthisical. Such eyes frequently collapse; sometimes, however, they do not even get small, but their further growth and development is completely arrested; and if the individual grows up to adult age the eye appears preternaturally small, the lens frequently becomes opaque or calcareous, and the iris of a greenish-yellow or orange tint. This choroiditis occurs in delicate strumous children during and after severe fevers in which there appears to be blood poisoning. I have endeavoured to ascertain the exact condition of the fundus, but have never yet obtained any very satisfactory results; beyond a straw-coloured or yellowish-red uniform surface there is very little to be seen; neither optic disc nor retinal vessels are visible. Atropine has little or no effect on the pupil, and the unsteadiness of the child, and the incessant motion of the eye, render it frequently very difficult to examine such cases. As a rule, this disease attacks but one eye, and the right eye has been the one most frequently lost in the Dublin epidemic, cerebro-spinal meningitis."—P. 118.

Rudnew and Burzew have recorded recently the dissection of an eye effected by internal inflammation in the course of cerebro-spinal

meningitis. The anterior chamber was filled by a purulent fluid. The vitreous was inflamed and pushed forward by a purulent exudation between it and the retina. The choroid and corpus ciliare were also occupied by purulent matter, and their vessels indistinct. There was an effusion of blood into the retina, but its several layers were on the whole well preserved. The patient was aged forty-five years; the left eye only was affected.—(Virchow's Archiv: Bd. XLI., s. 84.) The occurrence of tubercle in the choroid, to which recently attention has been called by Cohnheim and Wells, is duly noticed by Mr. Wilson.

The last lecture is on Glaucoma. In this disease the ophthalmoscope has performed some of its most brilliant achievements, and thrown a flood of light on this hitherto obscure affection. Mr. Wilson sides with Graefe as to the inflammatory nature of glaucoma, but notices Donders's neural theory, and the reasons on which it is based. He, however, makes no mention of the more recent researches of Dr. Wegner, which seem to give strong support to the view held by Donders. In this chapter we find a good description of the symptoms and appearances in glaucoma, considered as acute, chronic, simple, and consecutive. Excellent engravings of the depressed optic disc, from drawings by the author, are given; and cases related in which iridectomy was effective in curing this formidable disease.

The work terminates with a copious index, for which the author will receive the thanks of every reader.

In conclusion, we would again most warmly recommend this work to every one commencing ophthalmoscopy. As we have already said, it stands alone in English medical literature, filling up the hitherto vacant space between Professor Longmore's *Aide Mémoire*—which, from its brevity, would be of little use to the beginner—and the more costly and elaborate work of Zander, to which, however, Mr. Wilson's lectures will form a good introduction.

The Medical and Legal Aspects of Sanitary Reform. By Alexander P. Stewart, M.D., and Edward Jenkins, Barrister-at-law. London, 1867. Pp. 100.

The object of this treatise is, on the one hand, to recommend the adoption of mandatory legislation upon the many most important branches of the public health question; and, on the other, the consolidation of all previous acts for that purpose.

The writers also treat of the appointment of well educated health officers throughout the kingdom, and the correction of the many evils attendant upon the system of scavengering, sewage, buildings used as tenements for the humbler classes, as well as the management of infectious diseases, of water supply, &c.

" 1. We require a thoroughly efficient administrative department of government for the superintendence of all matters relating to the public health, and the enforcement of the law on recusant local authorities.

" 2. The appointment of officers of health, not only in towns, but in the country, and for our ports and harbours, should be compulsory; they should be independent of the local authority, their appointment, the amount of their salary, and their dismissal being subject to the approval of the central department; and should exercise a general supervision of such districts as may be agreed upon.

" 3. The inspectors of nuisances should always be under the control of the officers of health, and should not be burdened with other and inconsistent duties. Their appointment should in every case be compulsory.

" 4. There should be an annual return to Parliament of all officers of health and inspectors of nuisances, of the population and areas of their respective districts, of the salaries paid to them, and of the duties they are required to discharge.

" 5. As a general rule, the officers of health should be specially trained and set apart for that work alone, and be remunerated accordingly, out of the municipal funds or county rates, aided from the consolidated fund.

" 6. The isolation of those sick of infectious disorders should be enforced by their early removal to—

" 7. District hospitals or refuges to be provided by the local authorities.

" 8. The conveyance of such cases in hackney carriages should be everywhere prohibited under a penalty, the same to be strictly enforced against offenders.

" 9. Carriages for the conveyance of such cases *must* be provided by the local authorities.

" 10. Disinfecting apparatus for clothes and bedding must likewise be provided by local authorities.

" 11. We urgently need a well-considered Act, which shall facilitate the acquisition of low house property, and shall empower the Government to grant loans on easy terms, on the security of the new buildings, to those who shall undertake to provide wholesome dwellings for the labouring population.

" 12. The supply of gas and water should be taken out of the hands of

private companies, and entrusted to public and responsible bodies, in the interest of the consumer.

"13. It should be made lawful for Boards of Guardians to apply portion of the rates to the providing of convalescent accommodation for those who require, but cannot procure it.

"14. A strict government inspection should be made during the progress of all works, for the execution of which the Government sanctions the borrowing of money, and before instalments are sanctioned, the inspector's reports and certificates being published."

We commend this work to all who have the health of the nation at heart, as they will find in it a valuable summary of many highly important facts and reports upon this all-engrossing subject, which is important, in the highest degree, not only to the philanthropist but also to the statesman.

Lectures on the Progress of Anatomy and Surgery during the present Century. By Sir William Fergusson, Bart., F.R.S.; F.R.C.S. Edin.; F.R.C.S. Eng., and Member of Council and of Court of Examiners; Serjeant-Surgeon to H.M. the Queen; Professor of Surgery in King's College, London; Surgeon to King's College Hospital; late Professor of Human Anatomy and Surgery to the Royal College of Surgeons of England, &c., &c.

These are the twelve lectures given by Sir William Fergusson in the years 1864-5, in his capacity of Professor of Human Anatomy and Surgery to the College of Surgeons. They comprise briefly within their scope the results of his experience in the subjects of conservative surgery (including, especially, excision of the knee), lithotomy and lithotrity, operations on the jaws, amputation, and some admirable reflections on minor surgery, and on operations in general. Each lecture, limited to the brief space of an hour for its delivery, contains, notwithstanding, a vast amount of valuable experience, such as was to be expected from so able a master, such as will well repay perusal. While an hour or two will suffice to peruse the book from cover to cover, there will be found in it so much of the results of a life's work as must make it ever valuable for constant reference and frequent re-perusal.

We shall select a few extracts with a view to show the quality of the work. In some the true modesty of a master mind is

perceptible; in others, the just pride of success, which alike must characterize the truly great; in all, the sound results of large experience commend themselves to the judgment of the reader:—

"After many operations on the adult and on the young subject, I had in a manner forgotten my early knowledge of the position of the bladder in children, and not only was content to make the incisions with a simple scalpel, but had in a measure got careless about some matters of great importance. On the 17th of March, 1849, I had to operate on a boy four years of age at King's College Hospital. I used a scalpel, as I had often done before, and made the ordinary incisions for lateral lithotomy. A grooved staff with a large curve was the director into the bladder. In making the deepest part of the incision I purposely used the cutting instrument as lightly as possible, with a view to open only a part of the membranous portion of the urethra, and notch the prostate and neck of the bladder. These objects being effected, the point of the forefinger of my left hand was, as usual, placed on the staff, and pushed gently towards the bladder. The finger went on, but I was aware that it had not got between the urethra and the staff. With an insinuating movement (much to be appreciated by the lithotomist who, as I do, professedly makes a small incision in this locality), I endeavoured and hoped to get its point as usual into the urethra and neck of the bladder. But here I felt conscious that I had failed. I was aware that the finger was getting deeper as regarded the depth of the perineum, but that I was not materially nearer the bladder. I could feel a considerable space at the point of my finger, and was convinced that the upper part of the membranous portion of the urethra, as well as the sides above the wound, had given way to the pressure of the point of the finger, and that now, as the latter was getting deeper into the wound, I was only pushing the prostate gland and neck of the bladder inwards and upwards. These parts seemed to recede before the smallest imaginable force, whilst I felt that I could in a manner make any amount of space round the bare part of the staff. I had no difficulty in distinguishing between the surface of this space and that of the mucous membrane of the bladder. Moreover, I knew that I had never crossed that narrow neck which is always felt as the finger passes into the bladder when a limited incision is made. An impression came over me that I was about to fail in getting into the bladder, and I had the idea that, unless I could open the urethra just in front of the prostate more freely, I should possibly never reach the stone. Any additional use of the forefinger of the left hand only endangered the further separation of the prostate and neck of the bladder from the pubes, and I was conscious that the only safety lay in cutting a little more freely on the groove of the staff. This I effected with great caution, and then I could appreciate the passage of the finger as usual

through the prostate and neck of the bladder. The stone was thereafter easily touched and removed; but when all was finished, I was forcibly impressed with the idea that I had nearly failed in the performance of the operation. Here (fig. 44) is the stone itself—one of the smallest I have ever removed by lithotomy. An onlooker might not have been able to perceive the cause of this emergency, but I was myself conscious that I had not reached the bladder, even at a time when the finger seemed deep in the perineum. Happily, the patient recovered, though slowly, in consequence of the lacerated character of the wound, and the formation of an abscess in the left testicle.

"Until this date, I confess I had never fully appreciated this danger and difficulty in lithotomy in young subjects. I had read of the slipping of the gorget in this operation, and become acquainted with the fact that futile incisions had often been made, and with the supposed mistake of the surgeon in cutting when no stone was present; but now a new idea flashed on my mind, and from that time I have never lost sight of it. I have never performed lithotomy on children in public without referring to it. I have observed, since that time, that the subject has been alluded to by certain surgical authors, but I am not aware that it had ever been specially noticed before.

"From all my experience I feel justified in stating my conviction, that most of the cases heretofore related as instances where the incisions for lithotomy have been made, and a stone has not been present, have been examples where the surgeon has failed to reach the bladder from the cause just narrated. Since I have been impressed with this view, I have known of cases where, death having followed the incisions, the stone has been found in the bladder at a *post mortem* inspection; and I have also heard of others where the stone has been successfully extracted at a second operation, after the first wound has been allowed to heal.

"The mishap is much more likely to occur than most surgeons imagine, and my opinion is founded upon the following grounds:—The size of the wound is necessarily limited, so that the forefinger of the left hand in a manner fills it. The perineum is much deeper in proportion in the child than in the adult, and, in addition, all the material is loose, lax, and loaded with fat. The circumstance that the bladder is more abdominal than pelvic in early life has been greatly overlooked. The slender tissue of the membranous portion of the urethra, the narrowness of the tube (both contributing to the facility with which the circumference may be torn through), and the small size of the prostate (rendering its discrimination difficult), all constitute peculiarities which are not conspicuous in the adult. In the latter there are room, development, bulk, mass, and a final wall of prostate and bladder, which may be all said to be deficient in the child.

"From these data I have long since come to the conclusion, and have

long taught in my lectures, that lithotomy in children, whilst comparatively free from danger as regards the final result, is by no means so free from difficulty or the risk of failure. The safety of result has been mistaken for simplicity of execution; but I hope that what I have now stated may be a warning to the young lithotomist. It may naturally be asked how the danger referred to can be avoided. My answer is, that more care than is usually given should be devoted to the operation, and that as the surgeon cuts into the membranous portion of the urethra and neck of the bladder he should never push the point of his forefinger onwards unless he feels certain that he has it between the staff and the wound."

On the question of free cutting, or slow dilatation of the neck of the bladder, he gives judgment in the following lines:—

"These latter remarks, it will be perceived, bear upon a very interesting and much controverted question as to limited or free incisions in the neck of the bladder. I doubt if this question will ever be settled, but on my own part I have no hesitation in declaring my preference to a limited incision, for I believe as implicitly in dilatation here as I do in the neck and mouth of the uterus in parturition, even though the latter is effected by nature, whilst the former is by force on the part of the surgeon. I am so strongly impressed on this point that I do not object to the term laceration which has often been applied to the somewhat forcible extraction of a stone; for my opinion is that laceration, provided a margin of prostate is left, is safer than the so-called free incision which fairly divides the left lobe of the prostate and runs into the membranous portion of the bladder. But in advocating a limited incision internally, I am equally convinced that a free external wound is of importance, for it greatly facilitates the deeper and more delicate part of this operation. When the distance between the surface and bladder is great, partly from obesity, partly from enlargement of the prostate, if a free incision be made, the knuckle of the forefinger may be buried in it, so that the point can be more readily placed within the prostate or the bladder, whilst it permits the more free and safe use of forceps, both in passing them into the bladder and in extracting the stone. Without this free space, there is a risk, in introducing the forceps, of passing them between the bladder and pubes, or between the bladder and the rectum. Moreover, in extracting a large stone, there is a freedom given to the leverage of the forceps, which, whilst much appreciated by the accoucheur, has been too little thought of by the lithotomist.

"The difficulties of lithotomy in the adult are, I apprehend, largely of the surgeon's own making. He limits the wound perhaps, making it too

narrow throughout, particularly on the surface; or in not penetrating into the bladder, whereby he runs the risk of the blunder of making a space between the pubes and prostate, that which in my lecture last year I endeavoured to impress emphatically as the grand source of failure in the operation in children; or he places it too high in the perineum, thereby setting his work too much in that dangerous strait, the angle of the pubes; or he does not make a proper use of the forceps either in clutching the stone or in drawing it from the bladder."

Did space permit we would quote the two succeeding pages, but for these we must refer the reader to the book itself.

On the results of lithotomy, in the hands of the most brilliant and successful of its votaries, as compared with lithotrity, the following extracts speak for themselves:—

"The late Mr. Crichton of Dundee, who operated until he was nearly ninety years old, has been, perhaps, the most experienced lithotomist in this country, of the present century. We are indebted to Professor Sharpey for a sketch of Crichton's practice, written by the aged lithotomist himself, and published in the fourteenth volume of the 'British and Foreign Medico-Chirurgical Review.' He had about 200 cases, and of that large number lost only 14.

"The latest writing of a lithotomist may be taken as his last report; and in this sense I may state that Cheselden, having cut in public 213 cases, lost only 20. In my own practice in King's College Hospital, I have cut 100, and of these 15 have died. Mr. Solly[a] has told us within the last few weeks, that of 63 cases in all, public and private, he has lost 14. Crichton's statements included both public and private; and as Cheselden did not publish the results of his private practice, we are entitled to infer that the Dundee practitioner in the nineteenth century was more successful than the reputed hero of British lithotomists in the eighteenth century.

"But, Sir, any humble merit of mine that may be associated with this address and that delivered two days ago, is, in my estimation, now to be told. I can give a list of lithotomy and lithotrity conjoined, which, in as far as I know, has fallen to the lot of few other men in Britain. I have personally by operations treated 271 cases—162 by lithotomy, and 109 by lithotrity. Although having seen little more than half the time of Crichton's experience, I have had 70 cases of the disease more than he had. Of the 271 I have lost 47; and that shows a mortality of something more than 1 in 7—not a bad average as operations for stone go; but lithotrity cases being included, I consider it low indeed. And I have now to state that which I look upon as of high interest in the

[a] Surgical Experiences, 1865.

modern history of surgery. Of these 271 cases, 219 were adults; 110 have been treated by lithotomy, and of that number 33 have died; 109 have been treated by lithotrity, and of that number 12 have died!

"Here, Sir, is a contrast between the two operations of lithotomy and lithotrity as practised by the same person. I refer to it as an indication of the favourable progress of surgery during the time in which I affect to glance at its history. In my own hands, whatever clumsiness or skill they may possess, the operation of lithotrity has been considerably more successful in regard to saving of life than that of lithotomy."

To pass from this to a domain of surgery almost as important for the brilliant results which it yields, we find the following observations on partial removals of the superior maxilla, so valuable, so truly conservative, and so opposed to the slap-dash school of surgery, that we cannot refrain from quoting them:—

"Most surgeons, I believe, have an impression that when a person is said to have a tumour in the upper jaw, or, to be even more precise, in the antrum, the whole of this cavity, with its walls, is so involved that in any operation for removal there is an absolute necessity that this circumference—the walls of that cavity—must be taken away. Now, it is my opinion that disease in the antrum, beginning in the cavity, as it were, is much more rare than most people think. My impression is, that in many, if not most, instances, the wall of the antrum is the part first affected, and that its cavity is gradually filled by the growth, and then perhaps expanded. Actually, in some instances, so strictly local is the disease that the antrum may be in a manner displaced and compressed, whilst its mucous lining remains without indication of disease. This I have particularly noticed in tumours which have had their origin in the alveoli; and I have seen frequently growths of considerable size here which have projected forwards, downwards into the mouth, and even upwards, and yet have left the antrum scarcely if at all involved. Any part of the circumference of the antrum may be the original seat of a tumour, and if such tumour be attacked by an operation at an early date, I maintain that it may be removed, and the rest of the antrum or jaw be left. If it so happens that the tumour is chiefly associated with the posterior wall or part of the antrum, the diagnosis will be more difficult, and if an operation is performed, the destruction of comparatively sound parts in front must be extensive in proportion; but if the tumour happens to be at any other surface it is, in my opinion of great importance to reserve as much as possible by removing only the offending part. It is, unfortunately, too often needful, owing to the extensive development of the disease, to remove all between the tongue and the eyeball; but cases are frequently met with of a more

limited extent, and if the surgeon follows the practice which I have ventured to characterize as a modern improvement—viz., to interfere at a reasonably early time, so as to arrest the tumour in its onward progress, he may remove the disease, and yet save the greater part of the upper maxilla. In one case the sacrifice of only the inner or nasal wall of the antrum will suffice; in another the front may alone require removal; again, probably the floor of the orbit or roof of the antrum may be involved, or possibly only the lower part of the antrum—that is, the roof of the mouth, with, perhaps, the alveoli. To save the floor of the orbit, as happily may often be done, is in my opinion of great importance; but of all these local operations that I am now advocating, that of removing disease, and at the same time preserving the roof of the mouth, is the one of most importance in my estimation, and where the extent of disease will permit, the surgeon should make every effort to do so. I have known a sound alveolar ridge, a perfect set of teeth, and one side of the roof of the mouth, all sacrificed to get at a comparatively small tumour in the antrum, which could readily have been removed with the sacrifice of only the front wall of the cavity."

We had marked other pages, *e.g.*, on reducing the size of flaps in amputation, on the folly of sacrificing healthy integument when stretched over tumours, and many other practical hints, but for these we must refer the reader to the book. The Scotch have been said to be deficient in humour. Those who think so may study the woodcut in page 289, and recant their error. We say no more.

On Joint-Diseases; their Pathology, Diagnosis, and Treatment: including the Nature and Treatment of Deformities, and Curvatures of the Spine. By Holmes Coote, F.R.C.S., Surgeon to St. Bartholomew's Hospital; Consulting Surgeon to the National Orthopœdic Hospital; Examiner in Surgery at the Royal College of Physicians; Membre Correspondant de la Societe de Chirurgie de Paris, etc.

It must always prove a source of satisfaction to read such a book as this one. The results of the matured experience of one who has been for so lengthened a period the surgeon of a large hospital like St. Bartholomews, and who has utilized the vast opportunities thus afforded him, will naturally be regarded as of immense practical importance. Indeed, this volume throughout is rather

the record of the personal experience of the author, and the rules of practice he has thence deduced, than a systematic treatise on the subject, and in this, we conceive, lies the great value of the work.

Throughout the book Mr. Coote insists that in the treatment of diseases of joints, surgeons should rely more upon the enforcement of complete rest, and of gentle, long, and patiently-continued mechanical treatment, and less upon the more violent surgical procedures. In the preface he expresses his regret that there seems to be a growing inclination for the early performance of operations, and particularly of resections. We agree with Mr. Coote in believing that very much may be done for diseased joints by carefully conducted general and local treatment, but at the same time we consider exception may be fairly taken to the conclusions which are implied in the following paragraph:—

"We are, therefore, justified," he states, "in concluding that most of these cases, properly and timely treated, will recover, although they may be troublesome and tedious. Surgeons in public practice should not despond of success, nor fly at an early date to so serious a measure as amputation or the resection of a joint, because the parts do not speedily become sound. We dare not act so in private practice."

We have no occasion to act so in private practice. The conditions of the two cases are by no means parallel, for while surgical interference may become absolutely necessary in an hospital patient from circumstances with which every hospital-surgeon is aware, the ample means at our disposal in the treatment of similar cases occurring amongst the rich may render the adoption of such a course wholly unnecessary and unjustifiable, and in the end the patience and skill of the surgeon may be rewarded by effecting the restoration to health of his patient.

Mr. Coote objects, and very properly objects, to any interference with a diseased joint whilst the malady is in the active stage. He prefers that the limb should always be left in the semi-flexed position assumed by the patient as the most comfortable, and considers that any attempt to straighten it under such circumstances is faulty in principle, and only calculated to do injury by pressing together highly sensitive parts, and thus aggravating the suffering. Indeed, he proceeds to say:—

"I am no advocate for the forcible extension of joints, whether contracted or deformed, except in a few cases, where some very unyielding

obstacle to *redressement* has to be suddenly overcome. The practice is of use after cases of rheumatic disease, when a bar of new bone prevents the proper movements of the limb, or where osseous union holds the bones in some abnormal position after all morbid action has subsided."

We remember being much struck one morning on hearing M. Verneiul, during his clinique at Lariboissiere, stating that his usual practice was to straighten limbs when in this condition, even when the inflammation ran pretty high. He assured those present that invariably the patient experienced great relief when the limb was made straight, and that the spasm was thereby completely removed. He was speaking more particularly of the knee-joint, and he justified the use of a considerable amount of force in effecting the object. Whether in principle or practice there could be no wider discrepancy than this from the views inculcated by Mr. Coote. In the article on the subject in "Holmes's Surgery" views similar to those of Verneiul are likewise set forth. With reference to the pathology of joint affections, the author states that the disease has its starting-point either in the synovial membrane or in the cancellous structure of the bone itself: —

"The expression, 'ulceration of cartilage,' as meaning a particular disease, is becoming, on many grounds, abolished. We include such cases under the head of 'Inflammation of the Joint;' the inflammation involving the head of the bone and all the tissues proper to the articulation. And when such symptoms arise, as were once supposed to indicate ulceration of the articular cartilage, we know that a layer of these highly-sensitive granulations have sprung from the surface of the inflamed cancellous head of the bone, and that they are actively engaged in removing the articular cartilage from its attachment; but not as a progressively destructive process. The removal of the cartilage is but the step to fibrous union of the ends of the bone, and the completion of a cure by anchylosis."

The author discusses, in the next few chapters, the particular diseases affecting joints in different situations in the body, and amongst the rest dwells at some length on hysterical affections, the doctrine of which he considers, to a large extent, overdone. Mr. Coote affirms that the more accurate pathology of the present day has taught us the existence of disease where none was heretofore suspected, while it leads an experienced surgeon to the conclusion, "that the word 'hysterics' has been often used to cover a hasty examination and shallow experience":—

"If," he states, "hysterical affections of joints are common in practice, I have been unfortunate in having had but a limited experience. Some cases of 'hysteria' of the knee have turned out, where we have had opportunities for examination, to have been disease of the cancellous tissue of the bone, with deep-seated and partial detachment of the articular cartilage. This spot, though small in extent, and easily overlooked, even in *post mortem* examination, may be the seat of the most acute pain on pressure; and the flexure of the limb is an almost involuntary act on the part of the patient to obtain ease. Cases of 'hysteria' of the hip have proved instances of chronic rheumatic inflammation, with the usual changes of cartilage and bone. The patient has limped about with the thigh bent until some surgeon, more adventurous than the rest, has given directions that the limb should be forcibly put straight under the employment of chloroform, and kept so by a wooden splint. The result has been that, after severe aggravation of all the symptoms, the limb, in course of time, has been found shortened two or three inches in consequence of destruction of the head and neck of the femur by ulceration."

These observations are, we consider, of much importance, and should certainly lead to the earliest and closest attention being given to the symptoms, often obscure, which attend incipient disease of the articulations.

It will be unnecessary much further to analyze the contents of this most valuable work. In the last chapter, devoted chiefly to the treatment of cicatrices after burns, the same general bias against operative measures, or, at all events, against meddlesome surgery, is manifest as in other parts of the book. The author believes that most cases of contraction from burn admit of relief by the simple means of graduated extension, without incisions of any kind. Experience has proved, he states, that after extension of the integument constituting the cicatrix, the contractile matter, to which these frequently hideous deformities are due, becomes absorbed, and is permanently removed, the skin to a large extent resuming its normal pliancy.

We again repeat we have perused this book with both pleasure and profit, and can heartily commend it to the careful consideration of every practical surgeon.

Excision of the Knee-Joint: a Description of a New Apparatus for the After-Treatment; with Illustrative Cases. By PATRICK HERON WATSON, M.D., F.R.S.E., F.R.C.S.E.; Lecturer on Surgery, Royal College of Surgeons' School; Surgeon to the Royal Infirmary and Chalmers's Hospital for Sick and Hurt.

DR. P. H. WATSON has published this volume with a view of bringing before the notice of the profession a method devised by him of treating cases of excision of the knee-joint after operation. He does not pretend to deal, except incidentally, with the more general questions of what is the best mode of operating, and what cases are more suitable for excision of the joint, and which may be more suited for amputation. He starts with the assumption that the operation is a surgical procedure of acknowledged merit, saying:—

"I should prefer, so far as I am concerned, to accept it as a settled point, that excision of the knee-joint is a good operation, one which has, in so many different hands, yielded such successful results as to render its admission into the common list of operations, not only defensible as something more than an experiment, but justifiable as being an accepted procedure of modern surgery."

Dr. Watson rightly considers that one of the chief obstacles in the way of the more general introduction of this operation is the great difficulty often experienced in the after-treatment, and all surgeons who may have occasion to perform excision of the knee-joint will feel grateful to anyone who can give, what Dr. Watson professes to afford, a new apparatus facilitating greatly the after-management of such cases. Our author's plan has the great merit of simplicity, and without entering into full details, it may be described briefly as a suspension apparatus. A Gooch's splint from the nates to the heel, is applied to the posterior part of the limb, hollowed out laterally opposite to the joint. An iron rod hooped at the knee, is applied on the front of the limb from the fold of the groin to the foot, along the dorsum of which it runs to the toes, at a suitable inclination. This apparatus, having been placed in situ, is retained by means of plaster of Paris or paraffine bandages, applied immediately after the operation, and the limb is then swung in a Salter's cradle. A hook attached at the ankle to the iron rod furnishes the means of suspending the limb. The site

of operation is left exposed by the hollowing out of the posterior splint, and the arching of the iron rod over the joint.

Dr. Watson points out that in the ordinary forms of splint, while the leg is maintained in perfect immobility, the motions of the trunk cannot fail to act on the femur, and through it disturb the wounded surfaces, impeding their union, and causing deformity, besides the greater tendency to the formation of bedsores from the difficulty of relieving the pressure on the back. His apparatus, he contends, removes these difficulties, and the entire limb moves as one mass with ease, while there is no leverage of the femur acting on the excised joint. The patient can thus readily shift his position in bed, and sit up with comparative ease. Indeed, in one of the twelve illustrative cases brought forward, the patient was found on the day following the operation sitting up in bed combing her hair, a position she had assumed without assistance. Dr. Watson's apparatus, judging from his own experience, and the results which have been obtained by others through its use, seems largely to meet the desiderata required in any apparatus for the after-treatment and excision of the knee-joint, which the author lays down to be—

"1. Commensurate adjustment of the sawn ends of the bones not only at first, or at each dressing, but constantly throughout the whole period of after-treatment. 2. Such equipoise of the whole limb, that the thigh bone shall be able to follow the inevitable movements of the trunk without losing its proper relations to the tibia."

The form of operation employed by Dr. Watson resembles that used by Mr. Jones—namely, an anterior oval flap, the extremities passing well behind the condyles, the patella not being removed—which we believe to be a mistake.

The second chapter of the book is devoted to the consideration of twelve illustrative cases, six of which were successful, the remainder terminating fatally. The first of the fatal cases was one in which there was hemoptysis, and there were also well marked physical symptoms of phthisis pulmonalis, a condition which, we believe, would cause the majority of surgeons to hesitate before subjecting a patient to excision of the knee-joint, an operation of great severity, which must necessarily be followed, even in the most favourable event, by a prolonged confinement. In Case X. the fatal issue is ascribed to pyemia, which, the author considers, cannot in any respect be said to be connected with the operation of excision, as

distinguished from other forms of operation. To this view we must dissent, as we cannot but think that if local conditions are of any effect whatever in the production of this frightful malady, the state of the parts after excision of the knee are, *cæteris paribus*, likely to prove an efficient cause. We have here many square inches of the cancellated structure of the tibia and femur, with their patulous veins, bathed in pus, and, in point of fact, out of fifty-five fatal cases recorded by Price, ten of the deaths were due to pyemia, which is a large proportion.

Chapter III. is composed chiefly of clinical remarks of much practical value. Speaking of the selection of cases the author says:—

"Are there, however, any indications from the successful cases as compared with the unsuccessful ones, whereby we can in anticipation regard the prospects of a given case as better or worse in undertaking excision? I think there are. I am inclined, next to the employment of the operation in cases of accident or injury, to regard its success as probably greatest,—1. When the disease has commenced in disease of the hard textures of the joint, or at least when there is but little chronic change in the synovial membrane; 2. When there is no great burrowing of matter beneath the muscles or in the popliteal space; 3. When the acute stage of the disease is on the decline, or has declined, leaving the patient with no manifest evidence of original defect in constitutional vigour; 4. Where no bedsores already exist, in such a situation as to prevent a dorsal decubitus. But because my experience in my own cases, and in those of others, leads me to such a practical conclusion, I do not think myself justified in deciding that all outside this selected number must necessarily be given over to amputation."

Dr. Watson institutes an interesting comparison between excision of the elbow and knee-joints and the reasons which necessitate the attainment of a widely different result in the two cases; in the elbow-joint a movable articulation being the great desideratum, while in the other perfect bony anchylosis is what is required—a bond of union namely—capable of sustaining the weight of the body in progression without yielding.

In speaking of the instruments necessary for the operation, Dr. Watson evinces the tact and skill of a true surgeon, who relies more on his head and his hands than on complicated instruments, which are sometimes but an excuse for want of skill, but we cannot coincide in his preference for the common amputation-saw to a frame-saw such as Mr. Butcher's:—

"Various ingenious devices have, however, been recommended and

employed by others in this extremely simple operation for dividing the osseous tissues. Among these, Mr. Butcher's saw, Symovsky's saw modified by Luer, the old double-toothed saw of Moreau, and the chain saw recommended by the late Dr. Jaffray of Glasgow, in his edition of Park and Moreau's *Works on Excision of the Joints*, specially deserve mention. There can certainly be no objection taken to their employment if the section of the bone were more easily or nicely effected by means of them than by the common amputation-saw. But as one and all of them are less easily manipulated, and there is no evidence in favour of their effecting this work more smoothly, I cannot conceive why instruments, certainly well suited for the key-hole work or the pattern sawing of the cabinetmaker, should be imported into the armamentarium of surgery, or made of such great moment in the performance of an operation which requires neither sections in curves, in zigzags, nor in dovetail patterns."

This book is the work of a thoroughly practical surgeon, and contains much useful and interesting information. We should advise everyone likely to perform the operation of excision of the knee-joint to read it carefully.

Medical Students of the Period: A few Words in Defence of these much-maligned People, with Digressions on various Topics of Public Interest connected with Medical Science. By R. TEMPLE WRIGHT, M.D., &c. Blackwood and Sons. Fcp. 8vo, pp. 170.

IT has so long been the custom to attribute all sorts of folly, and even worse, to medical students, that we have learned to treat the so doing with contempt, being quite satisfied that the students, of the present period at least, could well afford to bear with good humour the jokes and gibes so freely launched at them; but we confess it often fills us with indignation when we hear of vagabonds who have fallen into the hands of the police, calling themselves medical students, and hoping to gain thus some consideration because of the character for general licentiousness of the class to which they pretend to belong. The plea is, as a rule, as false as the assumption on which it is founded, and we are glad to know that it is coming to be regarded far more as a reason for increasing the severity of punishment than for its mitigation. The work now before us was undertaken by its author for the purpose of showing the true character and nature of the pursuits of medical students. We hope it may be very generally read, as well by students as by those about to become

students, and by their friends and the public at large. Students will find in it a high ideal placed before them, at which they will be stimulated to aim; their friends and guardians will learn much of the course to be pursued by those anxious to derive the fullest benefit from their studies; and the public at large will be enabled to form a correct estimate of a class whose duties, though often of a disagreeable character, are performed with such self-devotion and thorough honesty as to fully justify the description given of them by Kingsley, as "noble and conscientious young men."

The book consists of twelve chapters, and describes with accuracy the life of students attached to the London schools, introducing sufficient details to make the account interesting without being tedious, even for the non-professional reader. The lecture theatre, the dissecting room, the laboratory, and the hospital, are described in succession; then "Medical Student's Leisure Hours;" and finally, "Our Diplomas, and How we Read for Them," which, with some very appropriate and admirable remarks on the London University and medical education generally, closes the volume. We trust a new edition will soon appear, in which the Dublin and Edinburgh schools will also be fully described.

A Winter in Paris; being a few Experiences and Observations of French Medical and Sanitary Matters, gained during the Session of 1865-6. By Fred. Simms, M.B., Lond. London: Churchill, 1866. Fcp. 8vo, pp. 151.

This little volume gives an account of the hospitals of Paris, both general and special, of the school of medicine and the method of education, and a notice of the sanitary arrangements. In speaking of the several hospitals the author describes the forms of disease and the most remarkable points of practice he observed in each, so that visitors to Paris for the first time may learn from Dr. Simms' experience how to select the hospitals where they will find most to interest them, and how they may derive the fullest possible benefit from their visit. We cordially recommend all who think of visiting the Parisian hospitals to take advantage of Dr. Simms' experiences herein recorded.

The Natural and Morbid Changes of the Human Eye, and their Treatment. By CHARLES BADER, Ophthalmic Assistant-Surgeon to Guy's Hospital. London: N. Trübner and Co., 60, Paternoster-row. 1868. Roy. 8vo., pp. 505.

Plates illustrating the Natural and Morbid Changes of the Human Eye. By C. BADER, &c.

Die Optischen Fehler des Auges mit-ihren Folgen Asthenopie und Strabismus. Von JOHN ZACHARIAH LAURENCE, F.R.C.S., &c., Aus dem Englischen ins Deutsche übersetzt, and mit erweiternden Zusätzen versehen von Dr. AUGUST KARST, Praktischer Arzt zu Kreuznach. Kreuznach: R. Voigtländer, 1868.

The Optical Defects of the Eye, and their Consequences, Asthenopia and Strabismus. By JOHN ZACHARIAH LAURENCE, F.R.C.S.I., &c. Translated from the English into German by Dr. August Karst.

Observations on the Nature and Treatment of Polypus of the Ear. By EDWARD H. CLARKE, M.D., Professor of Materia Medica in Harvard University; Member of the Massachusetts Medical Society; Fellow of the American Academy of Arts and Sciences, &c., &c. Boston: Ticknor and Fields, 1867.

MR. BADER'S work is divided into eleven chapters, the subdivision of the matter being according to the structures involved; each chapter is prefaced by a brief anatomical description, and allusions to the development and the congenital anomalies of the parts referred to, the remainder of the chapter being devoted to the morbid conditions and their treatment.

It is only within the last few years that the laws and theories respecting the origin of strabismus have been thoroughly investigated and, we think, satisfactorily explained. It is now established and pretty well known that convergent strabismus is due in the majority of cases to hypermetropia, which latter is an anomaly of refraction discovered and explained some few years ago by Donders. Mr. Bader states that about 95 out of every 100 cases can be traced to this cause.

"The origin of strabismus in hypermetropic persons is thus explained. To read or to look at near objects for a prolonged time requires a certain power of accommodation to keep up the necessary curvature of the crystalline lens, and a proportionate amount of power of the external

muscles of the eyeball to maintain the requisite convergence. Accommodation and convergence go hand in hand. Strong accommodation is necessarily accompanied by strong convergence. Hypermetropic eyes, to be able to see distinctly, use more power of accommodation than emmetropic eyes, and simultaneously converge more. While reading type held at a distance of 12″ healthy eyes are directed to a point 12″ distant: but hypermetropic eyes to read at the same distance have to accommodate and converge strongly; and though the eyes are directed to a point which lies at 12″ distant there is a great tendency to converge for a nearer point, as may be seen if one eye is excluded, but not closed, while the other looks at the object. The excluded eye, as a rule, at once converges too much. If vision of both eyes is accurate, *then the tendency to use both (to maintain binocular vision)* is so strong that both remain properly directed, and no strabismus arises. Though even then we may find one of the eyes squinting for a few moments, just when commencing to read, and again when 'the eyes get tired.'

"The occurrence of strabismus is facilitated by diminution of the acuteness of vision of one eye. The second eye, if only one is used, follows the tendency to too great convergence while the other is directed to the object. Diminished acuteness of vision of one eye may be the result of a high degree of hypermetropia, or of alterations in the refracting media, e. g. opacities of the cornea, &c., &c.

"Looking at objects placed laterally, or reading with the book held to one side so that only one eye is used, allows the other eye to follow the tendency to too great convergence.

"The convergence of hypermetropic eyes is facilitated by the globular shape of the eyeball admitting of greater mobility, and particularly by the large angle which the visual line makes with the axis of the cornea. The greater this angle the more readily does the eye follow the tendency to strabismus."

With respect to the operative treatment of squint the author remarks in his preface, the only part of the work where any allusion is made to the labours or achievements of others, "the two methods of operating most frequently adopted are that termed the subconjunctival method, and that by which an incision is made into the conjunctiva over the tendon, the latter drawn out of the wound and divided close to the sclerotic, and the conjunctival incision united again by a suture. The latter mode of operating, known as v. Graefe's method, is generally practised on the Continent, and has found advocates in this country." This method has been practised, and, as our readers are aware, advocated in the pages of this journal by Sir William Wilde more than a quarter of a century ago. The

whole of this chapter on the "external muscles of the eye-ball" is most interesting and replete with information of no ordinary kind; both it and the chapter on "the eyeball," are eminently instructive, and contain an able summary of the modern doctrines and discoveries relating to refraction, accommodation, and muscular agencies and anomalies. Those unacquainted with Donders's great work "On the Anomalies of Accommodation and Refraction of the Eye," translated by Dr. W. D. Moore of this city, will do well to study in the work before us, an admirable epitome of Donders's views and labours on these subjects.

There is a very troublesome class of cases termed generically asthenopia, occurring mostly in females; the symptoms of this affection are well known, but not so the true nature of the malady. The symptoms we allude to are pain in the eyeball or feelings of fatigue on application of the eyes in reading, or fine-working, or dimness or disappearance of the letters of a book after a certain interval, so that the individual cannot continue to read or sew, &c., for more than a brief space of time, or has to pause frequently, cease the occupation, close and rest the eyes for a short time, after which the occupation may be again resumed to be again laid aside after a while. Such is the pain and uneasiness experienced occasionally that some individuals affected with this malady are doomed to complete idleness. This condition depends upon either insufficient action of the internal recti muscles (muscular asthenopia), so that the requisite convergence of the optic axes necessary for proper binocular vision cannot be maintained, or else upon debility and insufficient action of the ciliary muscle (accommodative asthenopia) so that the proper focus or adjustment of the dioptric apparatus of the eye cannot be maintained for more than a certain length of time; anomalous refraction also often exists. Mr. Bader's work contains full and clear information on these matters.

The chapter on "the cornea" contains a good description of astigmatism, together with the method of recognizing and correcting that anomaly; a few examples are given.

The operations for the removal of cataract described in this work and according to the preface therefore recommended are: the old flap extraction, the scoop or traction extraction, linear extraction, reclination, or couching and discision or removal by solution. We confess to some surprize on finding in this list the now exploded operation of reclination, and at the omission from it of v. Graefe's modified linear extraction; this latter operation, although largely

practised by others, may not be approved of by Mr. Bader, or he may consider it still *sub-judice*—but even granting this we believe the space devoted to reclination would have been much more profitably occupied by a description of v. Graefe's new method. We must conclude that as Mr. Bader recommends couching he also practises it, notwithstanding his avowal that half the number of cases operated on in this manner terminate unfavourably. We always experience feelings of regret in seeing this operation described in manuals or text books; it is comparatively easily executed, and therefore very likely to tempt the inexperienced; we would rather keep the student in ignorance of such an operation, or if it be necessary to allude to it, it should be mentioned only to be condemned. We have been disappointed at the complete absence in this chapter on "the crystalline lens" of all statistical information. Recollecting Mr. Bader's residence in and connexion with the Royal London Ophthalmic Hospital, where about 250 cataract operations take place annually, as well as his present position in Guy's Hospital, we had hoped he would have published the results of his very numerous observations, and have given in the present volume some statistical tables on the final results of cataract operations; we had also looked forward to some statistical inquiry into the subject of glaucoma and iridectomy analogous to the tabular statement published by him in one of the early numbers of the *Ophthalmic Hospital Reports*. The only information afforded on the results of cataract operations, is that contained in the following general remark:—"Where the cataract has been removed from the eye, out of every 100 eyes certainly 85 have obtained useful vision, while only about three per cent. have lost vision completely." Capsular and neoplastic membranous opacities frequently supervene in the pupillary area upon cataract operations, and it is often very difficult to recognize these causes of indistinct and impaired vision; they are, however, readily seen by means of focal illumination. Mr. Bader takes advantage of this circumstance in their removal, and while operating on them has an assistant to focus the light from a suitably placed lamp by means of a convex lens on the pupillary space; we can recommend this as a very practical suggestion, it will be found very useful in dark foggy weather or in badly lighted apartments.

Mr. Bader was, we believe, one of the first to introduce into Great Britain the doctrines held in Germany respecting glaucoma and was we think one of the most active in establishing the opera-

tion of iridectomy for the relief of that disease. As house surgeon and clinical assistant for several years at the great English National Eye Infirmary—the Royal London Ophthalmic Hospital—he had vast opportunities for clinical study, and as the museum of the hospital can testify, abundant material for pathological research, he also enjoyed the rare privilege of witnessing in patients under his own immediate control different methods of treating glaucoma adopted by some of the leading ophthalmic surgeons in London, and of contrasting the results of each line of treatment. As Mr. Bader's great experience must therefore be of no ordinary kind, and as the subject of glaucoma and iridectomy is one of great importance to us all, both in a physiological and in a surgical point of view, the interests of science and of our readers may perhaps be best consulted by giving some extracts from the author's work, and communicating his matured convictions on these matters; we regret our space does not allow of more extensive quotations.

At page 390 it is stated:—

"Formerly the term glaucoma was applied to the last stage of the disease only, viz., that in which the pupil had become fixed, irregular, and dilated, its area greenish, the ciliary vessels enlarged, the eyeball of stony hardness, and vision lost, &c. With our improved means of diagnosis we can discover the signs of glaucoma in persons with apparently perfect sight.

"The term glaucoma is at present applied to a series of morbid changes of the eyeball; the most prominent of which and apparently the one which causes nearly all the others, is an increase in the tension of the eyeball.

"This increase of tension, or, in other words, the abnormal resistance of the tunics of the eyeball to the touch, is attributed to an increased amount of, and to changes in the contents of the vitreous chamber, which give rise to disturbances in the circulation, nutrition, and functions of the textures of the eyeball. No satisfactory explanation can as yet be given of the primary cause of the increased tension; whereas most of the subsequent changes in the textures of the eyeball are readily explained by reference to it. These changes, in the majority of cases, are accelerated by attacks of inflammation, which either appear suddenly with remissions, or as chronic inflammation, with slight exacerbations. These attacks of inflammation themselves are symptoms of disturbed tension.

"Their occurrence, succession, and rapidity seem to depend, in a great measure, upon the power which the eye possesses of adapting its nutrition and circulation to the disturbances occasioned by the increased tension."

The following few extracts are selected from a very lengthy and complete enumeration of symptoms:—

"*The increase of tension of the eyeball* is, as far as is known, the earliest perceptible symptom of glaucoma; it may precede most of the others for some years.

"The tension, though remaining above par, varies in degree at different periods; and likewise varies in its effects upon the different structures. A retina, for instance, may have become completely paralysed by pressure, while the sensibility of the cornea and the shape of the pupil, &c., are but little altered.

"The tension increases suddenly during an acute attack of inflammation.

"The hardness of the glaucomatous eyeball reaches its height soon after vision is lost, and continues for a long period.

"As one of the later and rarer changes in the blind glaucomatous eye must be mentioned a fluid condition of the vitreous substance with dislocation of the chalky crystalline lens and a decrease of tension to T—2. The tension of the glaucomatous eye, after removal from the orbit, sinks below par in some instances; in others it remains unaltered.

"In many cases the tension is reduced to the normal degree soon after iridectomy, and at a later period it may sink below par.

"In another series of cases the tension remains a little above par after iridectomy; whereas in glaucoma, complicated with attacks of profuse hæmorrhage into the vitreous chamber, it often is not altered at all, or only at a late period.

"The same has been observed when, in young persons suffering from glaucoma, the iris has been much pushed forwards previous to the operation.

"If a well-performed iridectomy does not reduce the tension, a second operation should be tried: this sometimes succeeds in controlling the tension."

"*In the choroid* we observe—(1.) Hæmorrhage (? from impeded return of blood). (2.) Anæmic spots. (3.) Atrophy extending (as in the retina) from the ora serrata backwards. (4.) Staphylomatous changes in the atrophic parts.

"The hæmorrhage frequently occurs in the equatorial region and in the region of the yellow spot. The blood is accumulated in the outer layers of the choroid, and between the latter and the sclerotic.

"These blood-spots, when viewed with the ophthalmoscope, appear as black or brown, roundish, ill-defined patches, surrounded by the natural red reflection from the choroid; not unfrequently they are situated close to atrophic portions.

"Only after operations (iridectomy, extraction of cataract, &c.) has the

hæmorrhage been so great as to separate the choroid nearly completely from the sclerotic.

"The anæmic spots, as seen with the ophthalmoscope, appear roundish, white, well-defined, and in groups. They are mostly observed in the region of the yellow spot, and near the optic disc.

"The staphylomatous atrophic portions of choroid (and other tunics) are usually found in front of the equator, between it and the ora serrata, and by preference behind the insertions of the muscles. Viewed with the ophthalmoscope, they have a pale red colour, which is the more marked the greater the atrophy of the choroid. This form of atrophy differs from other forms, on account of the frequent absence of pigment patches round the atrophic portions.

"Microscopic examination of the choroid in chronic glaucoma shows the large veins and the capillaries gorged with blood, and much dilated.

"The stellate pigment appears normal round the optic disc, as well as in most other parts of the posterior half of the choroid. From the equatorial region to the ora serrata it is thin and atrophic in some, and completely missing in other places. The hexagonal cells round the optic disc appear normal, or nearly so as regards size, shape, and pigmentation. They are more altered nearer the ora serrata. Upon the atrophic parts of the choroid they are missing, near these points they appear rugged in some, and round and unusually large in other places. Some are filled with pigment granules, whilst others contain but few, or are entirely empty; many of the granules themselves appear abnormally large. Colloid globes or globules, disarranging the regularity of the cells, are found in a few cases only.

"The changes in the blood-vessels and in the pigmentation are in all cases most conspicuous from the equatorial region to the ora serrata. The texture of the choroid is rotten."

"*Blood-spots* (so-called capillary hæmorrhage) are met with in every glaucomatous retina. They occur more frequently along the ora serrata, and more rarely round the optic disc and yellow spot. Only few may be found in simple or chronic glaucoma, whereas a great number may appear in acute glaucoma, or after sudden diminution of tension (as after iridectomy)."

"Blood-spots are an unfavourable complication, and often impair or even destroy the benefit derived from iridectomy; especially if they are large and near the optic disc, or at the yellow spot.

"They have occurred months after the iridectomy, and without the recurrence of other glaucomatous symptoms. Patients suffering from renal disease are especielly liable to them.

"Those familiar with the brilliant red colour of the choroid in a fair and healthy eye must have been struck with the turbid or hazy appearance of the choroid in a similarly coloured eye when glaucomatous. From

dissection it appears that the destruction of the retinal elements, together with the presence of numerous pigment molecules and débris of blood, is the cause of this abnormal absorption of light.

"Clots of blood and opacities in the vitreous chamber, as well as hæmorrhage between the choroid and retina, or between the choroid and sclerotic, may also prevent our seeing the retina, optic disc, &c.

"*Dissections of numerous Glaucomatous Retinæ removed from the living body.*

"The retina appeared in all cases transparent to the naked eye. In two cases of chronic glaucoma the tint peculiar to the region of the yellow spot was no longer perceptible. In all cases of chronic glaucoma small round blood-spots were observed, and most frequently near the optic disc. Numerous blood-spots were found in acute glaucoma, especially along the ora serrata (and some between the choroid and retina, beneath the most depending equatorial part of the retina, with streaks of blood hanging into the vitreous chamber).

"The texture of the retina was found to be very rotten in chronic glaucoma, particularly so at and near the ora serrata; in some places it could only be removed in small shreds."

"The increase in the number of the capillaries of the retina was remarkable even along the ora serrata, where the other retinal elements appeared reduced to a semitransparent amorphous substance. Everywhere did the capillaries appear enlarged and varicose with portions of their walls bulging out so as to form pouches (aneurismata) of varying size. A few of these pouches were filled with a black, brownish, or yellowish amorphous substance. The veins were varicose in many places. A loss of substance in their inner coat with a bulging of the thus weakened wall were frequently observed.

"Several times perforation of the lower or lateral wall of a vein could be demonstrated together with an accumulation of blood in the adjoining retina.

"The large veins ceased abruptly at the choroidal margin of the cupped optic disc; in the cup they appeared collapsed in some, and adherent to the walls of the cup in other eyes.

"The walls of some of the arteries appeared thickened."

With respect to the treatment of glaucoma we extract the following:—

"It has been found that, if glaucoma be left to itself, or be treated medically only, or by inefficient surgical means, or at too late a period, that vision sooner or later is destroyed.

"Most oculists have adopted the operation of iridectomy as a remedy which, in numerous cases has the effect of diminishing the abnormal tension of the eyeball. Every medical man should learn to perform this operation. In cases of acute glaucoma, where it is of the greatest

service, and where immediate surgical aid is required, the difficulties of its performance are but few, for the textures of the eyeball are little altered, provided vision has been useful before the attack.

"The operation is more difficult if the textures are rotten, as in simple and chronic glaucoma with much impairment of vision. The removal of a portion of iris is in itself a most harmless step, and never followed by serious consequences. No excuse exists for not performing the operation in acute glaucoma, especially if vision has been good before the attack.

"Persons who suffer from glaucoma, and whose sight is but little impaired, must be [made] acquainted with the usual course of 'the disease,' and with its more serious symptoms. Patients should avoid those things which cause irritation of the eyes, such as much reading, 'near-work,' mental excitement, sleepless nights, &c. We should urge the operation of iridectomy if we find the peripheral parts of the retina already impaired, or if attacks of dimness, with increased tension, appear at short intervals.

"Patients who have lost one eye by glaucoma are more readily induced to have the operation performed.

"The longer the operation is postponed the less favourable is the result.

"Secondary changes (mostly of an atrophic character) in the structures of the eye, brought on by long-continued pressure, are not remedied by iridectomy.

"Accidents which may arise during the operation, such as hæmorrhage into the retina, wounding of the crystalline lens, loss of vitreous, &c., diminish much the chances of success.

"As the result of careful examination of the retina, before and from six to eighteen months after iridectomy, properly performed, the following conclusions have been arrived at:—

"(1.) That the operation may be recommended as long as there is perception of light; and, in acute glaucoma, even if perception of light has been lost for a week after the attack.

"(2.) That the usual causes of failure are—advanced structural changes of the optic nerve and of the retina; fresh increase of tension; hæmorrhage, especially in the region of the yellow spot, or into the optic disc; and accidents during or immediately after the operation, as intraocular hæmorrhage, &c.

"(3.) That in the majority of cases the amount of vision is preserved which the patient had before the operation, and that for months vision continues to improve.

"(4.) That the result is the less favourable the more the paralysis of the retina has approached the yellow spot, especially if it has done so more from above and below; or if the sensibility of the region of the yellow spot is so much diminished that the patient, when looking at an object, turns the eye to one side ('eccentric fixation').

"(5.) That if we find the aqueous humour turbid, the transparency of the vitreous substance impaired, and the entire retina sensitive, a better result is obtained by iridectomy than if these are clear with a similar amount of impairment of vision.

"(6.) That in acute glaucoma the pain ceases almost immediately. (From four to six leeches should be applied at bed-time to the corresponding temple, if the pain returns soon after the operation.) The external 'inflammation' and the turbid state of the media, as a rule, disappear after from ten to fifteen days.

"(7.) That the less the eyes are used for near-work the more satisfactory and lasting is the result of iridectomy."

In alluding to iridectomy in his preface the author says, "its modus operandi is not yet understood, but it has proved the remedy by which the largest number of patients suffering from glaucoma are relieved." The crystalline lens, he says, "when removed from a glaucomatous eye appears of a pale orange colour (from imbibition of hæmatin)." The youngest age at which the occurrence of glaucoma has been recorded is, we believe, seven years, mentioned by the author. The disease, he remarks, "always appears in both eyes, but rarely with equal severity, or simultaneously. In one case nineteen years elapsed before the second eye became glaucomatous."

At page 48 there occurs what is evidently an erroneous typographical transposition: "a strong solution of nitrate of silver (℥i. ad aquæ ℥i.)" is there recommended for psorophthalmia.

A peculiar and we think a novel feature in this work is the complete exclusion of "authorities," and the total absence from the body of the work of any allusion to individuals; as the author remarks in his preface, "no reference to works on ophthalmological subjects are given in the different chapters, neither are the names mentioned of those whose merit it is to have advantageously influenced the state of ophthalmology by invention of instruments or by original research." The author does not assign any reason for this omission—for we regard it as an omission; apart from other considerations and the credit due to originality, the coupling of the name of the originator, say of any given operation with that operation serves often as a reminder to the student as well as to distinguish briefly that operation from all others Mr. Bader's work is remarkable for its total silence on the merits and discoveries of others, except in its preface; and what student, may we ask, ever reads a preface?

The work embraces a digest of almost every subject within the extensive province of ophthalmic literature, and may be regarded as a faithful mirror of the present very advanced state of ophthalmology; it is especially rich in pathological and physiological information; and will be found very useful by the specialist. We fear, however, that the work will not find much favour amongst the general body of students, and this may be attributed in part to the character and style of its composition; its diction is curt and dogmatic; it is made up of short disjointed paragraphs which, though perhaps pithy and full of information, yet render the whole "dry" and unpleasing in style; the book is composed of a series of bare encyclopedic statements, without any reference to the student's intelligence or any appeal to his sympathies and reasoning faculties. It is, we believe, specially incumbent upon authors who write for students to endeavour to render their style of writing pleasing, their diction fluent, and their language pure and simple; by doing so they will not only write attractively and render their meaning unmistakable, but they will also set a good and wholesome example to their juniors. As an instance of a simple and very attractive style of writing may be mentioned Sir Thomas Watson's *Lectures on the Practice of Physic.*

The text of the work is devoid of all illustration; but there are a series of lithographic plates contained in a separate portfolio-like roy. 8vo cover, together with an explanatory catalogue of 32 pages. Altogether there are ten plates; three are illustrative of the microscopical, healthy, and morbid anatomy of the retina chiefly, one plate represents instruments, and the remaining six plates contain each six chromolithographs of the bottom of the eye, so that there are in all thirty-six coloured representations of the fundus oculi in health and in disease, in emmetropia and in ametropia. These plates cannot be too highly commended, both as works of art and as life-like representations. They belong evidently to the same series as those published by Mr. Bader in the Guy's Hospital Reports. These representations are best seen by artificial light, and the size in which the fundus is figured is nearly the same as that actually seen in the reversed image; in this respect they possess we think an advantage over Liebreich's plates, some of which we cannot avoid considering as magnificent artistic exaggerations. These plates are published in a separate form, and may be purchased apart from the general work; their accompanying catalogue supplies all requisite information; the student and practitioner will find them good

and useful guides, and the teacher will find in them valuable and portable illustrations.

We have to congratulate Mr. Zachariah Laurence on the fact of his little work having been translated into French and into German; his *Optical Defects of the Eye* is the most lucid brief treatise we are acquainted with on the subject, and is in our mind the work most suited for those who, wishing for intelligible, accurate information, have not much time at their disposal for perusing voluminous treatises. We are glad to find Mr. Laurence's merits appreciated as well by the Germans as by ourselves.

Dr. Clarke's observations on non-malignant polypi of the ear are sound practical ones, in which however there is not much of novelty to those at all acquainted with the subject. His paper contains the notes and a tabular statement of thirteen polypi which he removed, together with a careful record of their microscopical character; two excellent plates illustrate the minute structure of these growths. A modification of Sir William Wilde's most admirable, handy and practical polypus snare is figured and described, which we must consign to the region of "author's instruments," for it is more clumsy and does not, so far as we can judge, answer its purposes nearly so well as its original. A novel mode of treating polypus and one which was followed by the best results in the solitary case in which it was tried by Dr. Clarke, consisted in the injection into the substance of a polypus of three drops of the liquor ferri perchloridi. "The growth soon shrivelled up, turned black, and in about forty-eight hours after the injection, dropped out of the ear, in the form of a black mass." It did not reappear.

The Surgery of the Rectum, being the Lettsomian Lectures on Surgery delivered before the Medical Society of London, 1865. By Henry Smith, F.R.C.S., Assist.-Surgeon to King's College Hospital, and President of the Medical Society of London. 2nd edit., 1868.

In a course of three lectures delivered before the Medical Society of London, the author of this little volume, which has now reached, and most deservedly so, a second edition, treats of some very important disorders of the rectum, and their surgical treatment. The title is rather comprehensive, but the writer explains

that, as he was compelled to limit himself to three lectures, he was constrained to select a few only of those diseases which appeared to him the most interesting, and to which he had devoted a considerable share of attention. In the first place, he dwells upon *Fistula in ano*, and makes some extremely useful observations upon the causes which may render operations for the cure of this disease unsuccessful. He points out that in many instances delay or failure in the healing process is due to the co-existence of strictured rectum with the fistula, and that the connexion between the two has not been much insisted upon by surgical writers. The author's views, as to the reason why after some operations incontinence of feces results, are important. He believes that this will generally be found to depend upon the depth to which the incisions pass, and that when the internal sphincter is deeply divided, as well as the external, this most deplorable occurrence is apt to follow. This view is a reasonable and probable one, and it is fortunate that in most instances it is not necessary for the cure of fistula to divide the parts to the extreme limit of the sinus, and that the incisions may be confined almost entirely to the lower extremity of the bowel.

The second lecture, which treats of stricture, cancer, and polypus of the rectum, is not altered in this edition. There are some additions, however. The matter of the third lecture is more peculiarly the author's own. The method employed in the treatment of hemorrhoids and prolapsus by Mr. Smith has proved, in the hands of that surgeon and in those of others, eminently successful. In the first edition some thirty-five cases are recorded, while in the preface to the second the author says:—"I have now operated upon one hundred and twenty cases without any fatality, or even any annoying result whatever. I am so thoroughly conscious of the safety and value of this plan of treatment that since the last twelve months I have entirely discarded the use of the ligature." Our readers may be referred to the work itself for a description of the improved clamp, as used by Mr. Smith, and the method of employing it. It is not put forward as an original means for curing piles, the author frankly acknowledging that the late Mr. Cusack suggested the use of the clamp and cautery as a means of destroying hemorrhoidal tumours. To Mr. Smith, however, is certainly due the credit of bringing this method prominently before the profession; and showing that internal piles may be thus removed with perfect safety to life, with but little suffering to the patient, and, as regards the ligature, at a considerable saving of time.

The writer of this notice has on three occasions removed internal piles by Mr. Smith's method. Two of these cases were very severe. In all three a most rapid convalescence took place, while the pain complained of during the operation was very trifling. Indeed, so far as our experience has gone, we are in a position fully to corroborate the statements made by Mr. Smith in the following paragraph, p. 117. He says:—

"In numerous instances, when the hemorrhoidal tumour or the prolapsus is large, a week or ten days elapse before the ligatures entirely separate, and as much more time goes away before the patient is able to leave his bed, whereas in by far the majority of cases where the same disorders have been treated by the clamp, the patients have been able to get out and about in from four to seven days. In some cases, even after the first evacuation of the bowels, which is generally obtained by the action of medicine on the fourth day, the patient feels able to get out of his bed, and to walk about."

Mr. Smith claims for the operation, besides, that the nervous shock is much less than after the ligature, and that secondary hemorrhage, pyemia, and tetanus, are not likely to happen.

We can warmly commend this book, as the work of an able, practical surgeon, to the favourable attention of our readers.

On Disease of the Right Side of the Heart. By Thomas Mee Daldy, M.D.; Member of the Royal College of Physicians of England; late President of the Hunterian Society. London: Bell and Daldy. 1866.

The object of this essay is to direct the attention of physicians to the diseased conditions of the right side of the heart. The author believes that the morbid states of this portion of that organ have been unduly neglected, and that pathologists have attached a too exclusive importance to the condition of the left side. He states that, if the muscular structure of the heart, as a whole, be the subject of morbid changes, the right side will suffer more than the left—the right heart, as we understand him, being less powerful both absolutely and relatively to its functions, and being also less advantageously circumstanced than the left with regard to its nervous supply. These views, which possess some novelty, are not, however, supported by any series of *post mortem* observations of the actual condition of the two sides of the heart in cases of disease

affecting the entire organ, while they are at variance with some generally accepted opinions. Indeed, the whole essay, although giving evidence of a considerable amount of ingenuity, and of an extensive acquaintance with general pathology, is deficient in the indispensable element of *post mortem* investigations.

The following is a summary of the opinions of the author, each of the propositions contained in it being the subject of a separate section of the essay:—

"1st. That feebleness of the right heart, and especially of its auricle (utterly independent of obstruction *a fronte*) is a phase of disease constantly presented to our notice, but not sufficiently observed.

"2nd. That dulness on percussion to the right of the junction of the xiphoid cartilage with the lower third of the sternum, and the propagation of the heart-sounds in the direction of the right clavicle, conjoined with the derangement of the circulation of one or more distant organs, are the diagnostic signs of an habitually distended right auricle.

"3rd. That the pathological condition to which I refer, viz., the reduction of the muscular structure of the auricle to something like elastic tissue (not fatty degeneration) is not readily recognizable on necroscopic examination, unless the abnormal distensibility of the auricle during life be carefully borne in mind.

"4th. That this feeble condition of the right heart is frequently hereditary, and traceable through two or even three generations.

"5th. That it gives rise to the following definite results:

"(α). The habitual congestive head-ache from which many persons suffer through their whole life.

"(β). The vertigo so constantly ascribed to determination of blood to the head, but really consequent upon impeded return of blood from the head.

"(γ). Deterioration of the brain-tissue (called softening) by impeding the return of blood through the *superior* vena cava, comparable to the results which occur to the tissues of the lower extremities, and of the organs below the level of the heart when the right auricle is unable readily to receive the blood from the *inferior vena cava;* or, viewed from the other side of the circulation, to the results of embolism, feeble left ventricle, or any other cause interfering with the due supply of arterial blood *to* the capillaries.

"(δ). Mania."

If the formidable list of evils which are here enumerated could be traced to a distended right auricle the condition would be

certainly one of great pathological importance. The proofs, however, which are offered in support of these somewhat startling statements do not carry conviction to our minds. The fourth proposition, for example, which states that a feeble condition of the right heart is frequently hereditary has exceedingly scanty evidence adduced in its favour. A remark made by the late Mr. Aston Key, which is quoted as bearing upon this question, seems to us to have no reference to Dr. Daldy's view. Mr. Key is stated to have observed that, as a general rule, diseases of the right side of the heart have a congenital origin, while diseases of the left side arise independently of primary defect. We have not access to the context of these observations, which were made in a discussion at the Hunterian Society, which has not been published, but we entertain little doubt that the statement referred to the well-known pathological fact, that while disease of the left side of the heart is much more frequent after birth than that of the right, the reverse is observed in the fetal condition—valvular changes and obstructions resulting from them being then most frequently found in the right side. Nor is the evidence brought forward as the result of Dr. Daldy's own observations of a more satisfactory character. He states that he has been informed by a number of patients, whom he believed to have been affected with weakness of the right heart, that one or other of their parents suffered from some form of dyspnea. When we consider how many widely different conditions of disease may give rise to this symptom, and how frequently it occurs independently of any heart affection whatever, it seems to us unaccountable that the author should have attached any importance to a statement so exceedingly deficient in precision of signification, or should have considered that it could lend any solid support to his theory.

While, however, we believe that some of Dr. Daldy's conclusions have been based on insufficient data, we must, in justice, observe that his essay is evidently the fruit of much consideration of the subject, and is written in a thoroughly candid and earnest spirit.

Report on Leprosy. By the Royal College of Physicians, prepared for Her Majesty's Secretary of State for the Colonies; with an Appendix. London. 1867.

This Report, printed by the Queen's printers at the public expense, and occupying more than 300 pages folio, is one of the most

minute and interesting documents ever published on any medical subject; and as such, it demands our particular consideration.

In the year 1863 the Governor-in-Chief of the Windward Islands suggested to the late Duke of Newcastle, then Colonial Secretary, that reports should be obtained from the Colonies, and collated by some professional body in this country, respecting the character and progress of leprosy, which was believed to be on the increase in the islands of his Government. This suggestion met with the approval of the Colonial Secretary, who requested the Royal College of Physicians of London to frame the interrogatories, which it did. These were then transmitted to the West Indian Colonies at large, and to most of our foreign possessions, and the result is the mass of answers to queries and other information in the report before us. This, though given in abstract to a large extent, is yet very voluminous; 250 replies to the long set of interrogatories having been received at the Colonial Office, and transmitted to the College. The Committee appointed by the College consisted of Dr. Budd (Senior Censor), Dr. Owen Rees, Dr. A. Farre, Dr. Gull, Dr. Milroy, and Dr. Greenhow. The report is framed in sections corresponding with the interrogatories, presenting in the first place an arranged selection of the replies under the successive interrogatories, and then giving in like succession the conclusions formed on the subject matter of each interrogatory from a review of the entire evidence. In the foot notes appended to most of the conclusions, the leading results of the observations of MM. Danielssen and Boeck on the several questions discussed are given from the Norwegian Official Report on Leprosy in 1847. In the closing observations several topics relating to the inquiry, which could not be conveniently dealt with before, are submitted for consideration.

The first question, or set of questions, to which answers were returned is this:—

"1—Is leprosy known in the Colony of——? If so, be pleased briefly to describe it as it occurs there—

"*a* Are there several different forms or outward manifestations of leprosy? If so, by what names are they respectively known?

"*b* Are these several forms, in your opinion, only varieties of one common morbid state? or are they specifically distinct diseases, having no affinity with each other?

"*c* Please to enumerate succinctly the more obvious and distinguishing characters of each form of leprosy which you have seen?"

In reply to these queries answers were received stating that in New Brunswick, and in that province or division of North America only, leprosy was known; and that it was known there since 1815; also that it was known in one or more varieties, and for a more or less lengthened time, in Bermuda, Jamaica, Barbadoes, Cape of Good Hope, Sierra Leone, Cairo, Cyprus, Rhodes, Scio, Mitylene, Samos, Crete, Corfu, Salonica in Turkey in Europe, Thessaly, Macedonia, Scutari, Sinope, Persia, China, Japan, Australia, New South Wales, New Zealand, Madagascar, Mauritius, Ceylon, and India.

India continues to be, as it has been for ages, one of the principal seats of leprosy in the world. No province of the empire, from Point de Galle to Peshawur, or from the Indus to the Straits of Malacca, seems to be exempt from the evil, and nowhere certainly might it be more advantageously investigated. Hitherto the subject has excited but little attention either in a scientific or social point of view. It is to be hoped (the report adds) that the present inquiry may lead to a more thorough and systematic examination of a malady which affects so deeply the material well-being and interests of millions of our fellow-creatures, subjects of the British Crown. It were a tedious task to give even a critical analysis of the considerable portion of this report which deals with an Indian empire. Suffice it to say that this portion is more minute and interesting than any other, and the inquirer must read it from beginning to end if he desires to make himself thoroughly up on the subject.

A few short extracts will show the style of the report.

Respecting Palestine and Syria, the report states that a full and accurate account of the disease, as it still occurs in these countries with which its past history is so intimately associated, is much needed. It then proceeds on pages xi. and xii. as follows:—

"It will be seen from the following remarks by Mr. Rogers, consul at Damascus, that the two forms of the disease recognized in that district are—'1. Baras el Israîly, or Israelitish leprosy, which consists of whitish scales on the skin; and 2. Jezâm, or, Da el Ased, or the lion-like disease, so called from the fierce appearance of people suffering from it; the lips, nose, lower jaw, and eye-lids swollen, and rounded eyes.'

"The first of these two kinds is very rare. I have never seen a case of it, but have heard of two.

"The other kind is quite distinct from it, and may, on more careful and scientific investigation, be found to consist of varieties which have not been particularized hitherto.

"The usual characteristics of the first kind are, the formation of scales over the skin, which peel off like bran or small fish scales, with pains in the limbs, but no ulcerations.

"In the other kind, the nose and upper lip become swollen and shiny; ulcerations form on the face; the hair of the face and head falls off; the voice becomes hoarse; the skin of the face becomes hard, lumpy, and wrinkled; and great pain is felt in the limbs. The nose is gradually eaten away, and sometimes the lips also; the hands and feet next swell; the nails of the fingers and toes ulcerate and fall off; and in some cases not only the fingers and toes, but even the hands and feet, as far as to the wrists and ankles, are eaten away; and sometimes, though rarely, ulcers are formed on other parts of the body.

"Mr. Rogers describes shortly two cases which he had recently seen, and in which the chief symptoms were lupoid ulceration of the nose, with hoarseness of the voice. In one case, 'the hands and wrists are swollen, and there is a constant suppuration from the nails, some of which have fallen off.' In the other case, 'nearly all his fingers are gone; his toes are going by degrees; suppuration continues in both hands and feet.'

"That both the 'tubercular' and the 'vesicular' or 'anæsthetic' forms of the leprosy are known in the district of Aleppo is manifest from the account of Mr. Wortabet, transmitted by Consul Skene.

"It is stated that the disease is not met with at Alexandretta or at Latakia."

In Crete, where leprosy has long, very long, been endemic, it has recently been engaging the attention of medical inquirers. Dr. Brunelli, we are told, was investigating it on the spot when the report was issued; and Drs. Hjorth and Mongeri, "both former sanitary physicians of the island," have written upon it. In the following extract from the description by Dr. Mongeri, notwithstanding the undetermined meaning of certain technical terms applied to diseases, allusion is made, as in Mr. Rogers' communication from Damascus, to the leprosy of the Jews, and it is regarded as one of the forms of true tubercular leprosy:—

"Leprosy is called in the Turkish language djudam or meskin; by the Cretans khalassi or komagra, and lepers khalasmeni, komeni (gatés, coupés). The principal forms seen in Crete may be classed in three groups. 1. The knotty, tuberculous or elephantine, the leprosy of the Arabians; 2. The squamous, or leprosy of the Greeks; and 3. The white, tzarath or leprosy of the Jews. These forms are, however, often blended and combined in one patient, so that it is difficult to dissociate them. The earliest symptom is generally some alteration in the integuments of the face, accompanied at first in some cases with an excessive

sensibility or hyperæsthesia, to be afterwards followed by a more or less complete anæsthesia. Swelling and ulceration of the nasal passages and of the lips, with tuberculous enlargement of the sclerotic and cornea, as well as of the eyelids, ensue, causing much disfigurement and distress. At the same time, or previously, the extremities are usually the seat of divers morbid changes of structure, with disordered or impaired sensibility, and ultimately of ulceration and loss of the phalanges of the fingers and toes, &c. In some patients, the disease appears chiefly in the form of excessive tumefaction of the extremities, or of scattered nodosities or hypertrophic hardenings of the integuments of the body. The 'bouton de Crete,' analogous to the 'bouton d'Alep,' is one of the manifestations of leprous disease. The cerebral and organic functions are usually unaffected."

"But it is not to the Turkish and Greek islands of the Mediterranean that leprosy is confined, as appears from the following communication from Corfu, where, although for so many years under British government, its existence has hitherto scarcely been known:—

"Tubercular leprosy has long existed in the Ionian islands. Dr. Dellaporta described it at the end of last century as he saw it at Cephalonia. 'I have seen it,' says Dr. Tygaldos, 'at Faraclata and Erisso, in Cephalonia; at Karussades, St. Duli, and Leptimo, in Corfu; and also in Zante. It is known under the name of Λέπρα. During the 15 years I have practised in the Ionian islands, I have at all times met with cases of the disease.'

"At first the patients exhibit, especially on the face and the extremities, smooth, shining, and oily-looking spots, of a yellowish colour, verging to a brown or livid hue. The affected parts, sometimes sensible, at other times insensible, or with an exaggerated sensibility, are swollen as if œdematous, and there is loss of the hair.

"These spots are succeeded by tubercles of various sizes, at first solid, and afterwards of a pasty or soft consistence, with a reddish livid aspect. As the disease advances, the tubercles attack other parts of the body, as the pharynx, larynx, nasal fossæ, &c.

"As a variety of the disease, I have noted in a patient in the village of St. Duli in Corfu the oily, yellowish, insensible spots, on which bullæ containing a fœtid sanies had formed. Destructive spreading ulcerations had followed upon the bullæ, but without the formation of any tubercles on the skin."

In and around Constantinople the disease is rarely met with. Dr. De Castro, it will be observed, regards the Mosaic leprosy as identical with the tubercular disease:—

"With the exception of the cases in the leper asylum at Scutari, the

'tzaraath,'[a] or leprosy of the Old Testament (which Dr. De Castro considers to have been the disease now described as Greek elephantiasis), is very rarely seen in this city. It is called by the Turks 'miskine,' by the Arabians 'djouzam.' It always commences by general or partial anæsthesia of the skin, and by copper-coloured spots on various parts of the surface, especially the face. These spots subsequently become discoloured tubercles. There is generally hoarseness of the voice and falling off of the hair. The tubercles afterwards ulcerate, destroy the tissues, and cause mutilations of the extremities. In some cases the anæsthesia is the only symptom present. The tubercular and anæsthetic forms are only varieties of one disease. The first is the most common."

The tubercular disease is here proved to prevail largely throughout the great Chinese empire, "and especially in the southern provinces." It is known by the names of 'fat-fung,' 'ta-ma-fung,' 'mo-fung,' or 'the great leprosy,' to distinguish it from other chronic cutaneous diseases, which are, however, often confounded with it, so that (says the report) "the general term 'leprosy' is often very vaguely applied throughout the country." It is common at Canton; is of frequent occurrence at Shanghae; is rare at Hong-Kong; but numerous cases are to be met with at Macao, "to which island the lepers from the mainland flock in consequence of the kind treatment they receive from the Portugese authorities there." A scaly brightness of the skin is a prominent symptom mentioned by a native leper physician to Consul Robertson, of Canton. The following description given by Dr. Henderson of the disease as it is seen at Shanghae will apply, says the report, to other parts of the Chinese empire:—

"It commences with one or more dusky-reddish shining patches on the forehead, nose, or legs; the skin seems tense, and has the look of being varnished; patients sometimes complain of weakness and languor; the appetite seems impaired; the tongue slightly furred; sensibility of affected part at first increased, but after from one to three months diminished. In the course of a short time, soft, livid, slightly prominent, indolent tubercles appear and spread over different parts of the body. Indolent, slowly corroding ulcers appear on the lower extremities; the skin becomes thickened and hard. After some months the whole skin presents a full and puffy appearance; the lips seem much thickened; the nose flattened; the nostrils dilated; the teeth become loose; the gums tender and ulcerated. The expression is peculiar, and the senses appear

[a] Λέπρα of the Septuagint.

more or less blunted. The general health suffers little, and patients ordinarily continue their employments, unless very laborious, throughout the progress of the disease.

"In the third state of disease, parts of the face, neck, and arms are ulcerated; the lower eye-lids are everted; the bridge of the nose is broken down; the palate is destroyed; the fingers and toes drop off, and the whole body appears a mass of corruption."

The following are the conclusions arrived at regarding Interrogatory No. 1. Their great value will, we trust, be held as sufficient excuse for giving them in full:—

"The distinctive characters of leprosy are the same in all parts of the world where the disease has been observed. These are certain kinds of cutaneous eruption and discoloration, associated with a tendency to ulceration or the death of the affected parts, and with disorders of innervation, more particularly the impairment or loss of sensibility.

"Two forms of the disease are very generally described in the replies, viz., the 'tubercular' or 'tuberculous' and the 'anæsthetic.'

"Inasmuch, however, as the terms 'tubercular' or 'tuberculous' might convey the impression that leprosy is allied to *tuberculosis*, it is proposed to designate the first of these forms by the term 'tuberculated.'

"Again, the loss of sensibility is not confined to the 'anæsthetic' form of the disease, although this symptom generally occurs earlier and is more marked in it than in the 'tuberculated' form.

"The arrangement, therefore, of the different forms of leprosy into the 'tuberculated' and the 'non-tuberculated' appears preferable.

"As, however, these forms not unfrequently co-exist, or succeed one another in the same patient, they must be regarded as modifications of one morbid condition.

"Among the varieties of non-tuberculated leprosy are included the cases that are sometimes designated 'leucopathic,' characterized by white spots or blotches on the skin which are more or less decidedly anæsthetic; and also those cases in which the cutaneous eruption consists of circular or annular spots, not unlike those of *lepra vulgaris*, but in which the centre of the spots is anæsthetic, and other distinctive characters of leprosy are present. These two last-named varieties of the disease are more frequently mentioned in the replies from the East Indies than in those from other countries.

"In most countries where leprosy exists, the term 'leprous' is ignorantly applied to many diseases which cannot properly be regarded as true leprosy.

"Hence various chronic maladies of the skin occurring in unhealthy persons living in poverty and neglect of cleanliness are often confounded

with it, and the patients, being regarded as 'lepers,' are treated as outcasts and objects of abhorrence.

"Elephantoid enlargement of the lower extremities is also in some places considered as allied to leprosy. The circumstance of the two diseases bearing the same generic name (*elephantiasis*) in medical writings has doubtless contributed to this opinion. They appear to have no real affinity with each other; although both are sometimes endemic in the same countries, and occasionally co-exist in the same patient."

The report states the further opinions, that the disease is not restricted to any period of life; although it most frequently occurs about puberty, and from thence to maturity; that its length is uncertain, lasting generally from five to fifteen years, but sometimes longer; that it is more frequent in the male than in the female; and among the dark than among the white populations in hot climates; that it occurs more among the lowest and poorest of the people than among those styled their "betters;" that bad diet, exposure, insufficient clothing, intemperance, sexual excesses, and mental depression, all serve to aggravate the disease and accelerate its progress; and that the use of certain articles of food is believed to be notably hurtful. Among these are salted fish, the frequent use of salted pork, and especially its "grease," of which, reports Mr. Ford, "large quantities from pigs that feed on all kinds of offal are imported from Calcutta into Mauritius." Further, the report concludes, that leprosy is often hereditary; that it is a disease *sui generis;* that it is not contagious, and that the greatest benefit is obtained from the adoption of sanitary and hygienic measures.

Among other papers of more or less interest in the appendix we may specify extracts from "An Account of Tubercular Leprosy in the Island of Madagascar," by Dr. Davison, founded on the notes of nearly 100 cases of the disease treated in the dispensary at Antananarivo during 1862; "Sketch of the Geographical Distribution of Leprosy at the Present Time," by Dr. Gavin Milroy; "Notes respecting the Leprosy of Scripture," by the same writer; and last, though certainly not least, either as to length, interest, or value, "Observations on the True Leprosy or Elephantiasis," by that eminent veteran and leader in the department of dermatological medicine, Erasmus Wilson, F.R.S.

Mr. Wilson's views on this subject have been of late years so frequently discussed and referred to in this journal, that we should deem any particular reference to them superfluous in connexion with

this report. As to the report itself, it is signed by men whose very names give it deserved weight and authority. These names are:—

Thomas Watson, President, George Budd, G. Owen Rees, Arthur Farre, William W. Gull, Gavin Milroy, E. Headlam Greenhow, and Henry A. Pitman (Registrar.)

The Physiology of Man; designed to represent the existing State of Physiological Science as applied to the Functions of the Human Body. By Austin Flint, Jr., M.D.; Professor of Physiology and Microscopy in the Bellevue Hospital Medical College, New York, and in the Long Island Hospital; Fellow of the New York Academy of Medicine, &c., &c. New York: D. Appleton and Company, 1867. Octavo, pp. 556.

Handbook of Physiology. By William Senhouse Kirkes, M.D. Sixth edition. Edited by W. Morrant Baker, F.R.C.S.; Demonstrator of Anatomy and Operative Surgery; and Warden of the College of St. Bartholomew's Hospital. With illustrations on steel and wood. London: James Walton, 1867. Pp. 802, crown octavo.

It is with pleasure we hail the publication of the second part of Dr. Flint's work on Human Physiology. Like the first, which appeared last year, and which, it will be remembered, we noticed at some length in the August number of this Journal, the volume before us is intended to form a book, complete in itself, and yet one of a series of four, which will embrace all the subjects usually regarded as belonging to human physiology.

Vol. I. treated of the Blood, Circulation, and Respiration. Vol. II. deals with the subjects of Alimentation, Digestion, and Absorption, subjects about which much has been written, and about which, especially the latter, though much by direct experiment has been learnt, there still lies a mist of doubt and uncertainty, that nothing short of perfect knowledge will, we fear, ever disperse. Great credit, however, is due to such men as Dr. Flint; for, though he has made no very original observations on the subject, he has yet, to a great extent, confirmed and strengthened the opinions of others by repeated and carefully-executed experiments.

The subject of Alimentation is treated of in four chapters.

The first is on Hunger, Thirst, and Inanition; the second on Alimentary Substances, simple and compound; the third on the different kinds of Food; and the fourth on the Drinks commonly employed by Mankind. In all of these there is matter of considerable interest, but particularly in chapter I., as it contains an account of the great privations endured by the Federal prisoners during the late Civil War in America. The description, taken from the official report of Professor Jones, of Augusta, is couched in glowing language, and tells a fearful tale of misery and suffering, due to hygienic and dietetic errors. Out of an hospital of 5,000 sick, the daily mortality ranged from 95 to 130. Everything that could be imagined likely to produce disease was there, and diarrhea, dysentery, scurvy, and hospital gangrene, failed not to mow the unfortunates down by hundreds.

"More than 30,000 men were crowded on 27,000 acres of land, with little or no shelter from the intense heat of a Southern summer, or from the rain or dew; with little or no attention to hygiene; with festering masses of filth at the very door of their rude dens and huts; with the greater portion of the banks of the stream flowing through the stockade a filthy quagmire of human excrements alive with working maggots; generating by their own filthy exhalations and excretions an atmosphere that so deteriorated and contaminated the fluids and solids of their bodies, that the slightest scratch of the surface was frequently followed by rapid and extensive gangrene, imperilling the limb and even life."

In proof of the absolute necessity of variety of food, a fact already well established by experiment both on the lower animals and on man himself, Dr. Jones states that the sameness and the coarseness of the food supplied produced, at first, a dislike, and afterwards such a loathing of it, that finally all the symptoms of starvation were developed in the most aggravated degree.

A fact of the greatest interest, in a medical point of view, was demonstrated by this official investigation—namely, that, notwithstanding defective nutrition in men subjected to crowding and filth, contagious fevers were rare, and typhus, which, according to the first authorities on the subject—Drs. Murchison and Laycock—has its origin in these very circumstances, and has been, for this reason, termed by the latter "ochlotic," was literally unknown.

In the succeeding chapters on alimentation, there is perhaps too much written, and too much stress laid upon the details of the cooking, and various modes of dressing the articles of food used by

man. It is, however, pardonable, when we look through the formidable array of such matters laid down in the French Pharmacopœia.

The subject of digestion is considered at much greater length, and the perusal of the many experiments in connexion with it performed by Dr. Flint, gave us much pleasure, as they pourtray such accuracy of observation and careful minuteness of investigation.

We find that at page 302 Dr. Flint is at issue with Drs. Brinton, Carpenter, and Todd and Bowman, on the subject of vomiting, as he reverts to the first opinion entertained by Magendie and John Hunter—that the action of vomiting is performed entirely by the diaphragm and abdominal muscles, totally independent of the muscular contraction of the stomach. This view he bases upon experiments performed by himself, and upon the correct reading of the report of the case of extrusion of the stomach, reported by Lépine in 1844. As this case has frequently been misquoted so as to appear that the contractions of the stomach itself were sufficient to produce vomiting, while the reverse seems to be the case, and as this misquotation is to be found both in Carpenter's *Principles of Physiology* of 1864, and in Todd and Bowman's *Physiological Anatomy*, 1857,we think Dr. Flint's explanation and remarks not out of place. In the case alluded to, Carpenter says:—"The stomach having wholly protruded itself, it was seen to contract itself repeatedly and forcibly during a space of half an hour, until by its own efforts it had expelled all its contents except gases." While in the original account (Lépine, *Plaie pénétrante de l'Abdomen ayante donné issue à l'éstomac*, *Bullet de l'Acad. Roy. de Médicine*, 1844, p. 146, *et seq.*), the reporter says:—"Thus, during all the time the stomach remained out of the abdominal cavity there did not take place any apparent contraction of the muscular fibres of this viscus, and nothing that it contained was expelled from its cavity, notwithstanding the violent efforts at vomiting that the patient made. Hardly had the stomach been returned into the belly when the same effort produced expulsion of aliments."

It seems hard to us to reconcile the fact that authors of such celebrity and of the above-mentioned excellent and comprehensive works on physiology could have made such a conflicting statement, except it be, as Dr. Flint suggests, they were content to take a quotation at second hand, when a reference to the original would

have enabled them to have avoided a statement so precisely opposite to the fact. This error Dr. Flint does not take credit to himself to have corrected, as Brinton, Dunglison, and Milne-Edwards, have all given the correct account as early as 1856.

In conclusion of this subject Dr. Flint holds that all the facts bearing on it go to show that in true vomiting contractions of the muscular coats of the stomach are not necessary, are not definitely connected with the act, and are never capable of discharging any part of the contents of this viscus.

The chapter devoted to the inquiry as to the functions of the pancreatic juice is evidently the result of much care. It gives the experiments in full of de Graef, Magendie, Bernard, and others, and the methods they adopted to obtain this secretion in its normal condition. Bernard seems to be the only one who has succeeded. He operated on a dog, and in some very successful experiments he has obtained from sixty to one hundred grains of juice in an hour from one of medium size. For a description of the process he adopts we must refer the reader to page 334-337.

The rest of the subject of digestion is handled in the same masterly way, and conflicting statements discussed in a temperate spirit. We notice, however, that when writing on the bile and its uses in digestion, Dr. Flint has entirely omitted to mention that, while the action of the bile is only subsidiary to that of the pancreatic juice, it certainly aids very materially the absorption of oleaginous bodies by enabling them to pass more easily through the coats of the intestine. For Wistinghausen and Hoffman have shown that the force requisite to effect the filtration of an oily substance, through an animal membrane is much less where the membrane is moistened with an alkaline fluid, or with bile, than when it is moistened with pure water.

The third part is devoted to the subject of Absorption, and includes chapters on Imbibition and Endosmosis, and on Lymph and Chyle.

As it is not our intention to go regularly through the different chapters of this work, we shall conclude our remarks by subjoining the following passage on the origin of the lymph corpuscles. The recent date of the experiments detailed must be an excuse for the length of the quotation.

After bringing forward the late researches of Robin in refutation of the theory that these corpuscles are formed by the lymphatic glands or by the walls of the lymphatic vessels, Dr. Flint refers

to the observations and experiments of Onimus,[a] made within the last year, on the genesis of leucocytes and upon spontaneous generation:—

"Onimus used the clear fluid taken without delay from rapidly developed blisters, which he found ordinarily contained no leucocytes, but which he carefully filtered in order to remove all sources of error. The filtered liquid contained no morphological element whatsoever; but, on the other hand, he found that if the liquid were allowed to remain for an hour or more in contact with the dermis, it always contained leucocytes and epithelial cells. Under these circumstances, even after filtration, the liquid contained a few leucocytes; but after six or seven hours of repose in a conical vessel, the corpuscular elements gravitated to the bottom, leaving the upper portion of the liquid perfectly clear.

"This liquid, entirely free from formed anatomical elements, was enclosed in little sacs formed of an animal membrane (goldbeater's skin) and introduced under the skin of a living rabbit. At the end of twelve hours, a few small leucocytes and granulations had made their appearance; at the end of twenty-four hours, the fluid had become somewhat opaque, and contained a large number of leucocytes and granulation; and at the end of thirty-six hours the fluid was white, milky, and composed almost entirely of leucocytes and granulations. The leucocytes, which were examined also by Robin, presented all the characters by which these corpuscles are ordinarily recognized. These experiments were repeated with more than forty different specimens of fluid from blisters.

"The experiments were then varied in order to show the influence of the membrane and of the composition of the blastema upon the development of leucocytes. By modifying the membrane in which the blastema was enclosed, it was found that the corpuscles were rapidly developed in proportion to the activity of the osmotic action. When thick animal membranes were used, their development was slow, and in some instances, did not take place at all. There was no development of leucocytes in a clear blastema enclosed in a sac of caoutchouc or in glass tubes hermetically sealed; and from this it was concluded that the osmotic action was a necessary condition, and that the mere heat of the body was not sufficient to develop these corpuscles, even in an appropriate blastema. The influence of this constant molecular movement is in striking contrast to the conditions of absolute repose which are so essential to the formation of crystals from ordinary saline solutions.

"One of the most interesting points in these experiments is connected

[a] Onimus, Expériences sur la Genèse des Leucocytes et sur la Génération Spontainé—Journal de l'Anatomie et de la Physiologie, Paris, 1857, tome iv., p. 47, *et seq.*

with the influence of the composition of the blastema upon the development of leucocytes. It was found that these bodies were never developed in a blastema in which the fibrin had been coagulated. Experimenting with two liquids, the only difference in their constitution being that in one the fibrin had been coagulated by repeatedly plunging the glass tube in which it was contained into cool water, while the other was kept at the ordinary temperature, a little bicarbonate of soda being added to prevent coagulation, it was found that leucocytes were developed as usual in the fluid which contained its fibrin, and that none appeared in the other. On placing the liquid with its coagulum enclosed in a sac under the skin, it was found that after a time the fibrin was redissolved, but no leucocytes made their appearance.

"The theory which has for its motto, *omnis cellula e cellula*, receives no support from these experiments. Onimus added to fluids which had been deprived of their fibrin, epithelial cells and pus-corpuscles, but even after thirty-six hours, he never found any additional development of corpuscular elements. Leucocytes added to fluids in which the fibrin was unchanged did not seem to exert any influence upon the development of new corpuscles.

"As regards the lymph, there is no fluid in the body which is placed under conditions more favourable to the development of leucocytes. It is enclosed in a system of vessels possessing extremely thin walls, and undoubtedly subjected to active osmotic currents. It contains, likewise, a considerable quantity of fibrin; and the proportion of this principle has always been found to influence the rapidity of the development of white corpuscles. Its circulation is not very rapid, and the obstacles to the current which are presented in the lymphatic glands undoubtedly give time for the perfection in the structure of leucocytes. It is in this way that the increase in the number of leucocytes as the lymph passes from the periphery to the larger vessels, and especially as the fluid passes through the glands, can be explained.

"From the fact that leucocytes are developed before the lymphatic system makes its appearance, that they are found in lymph which has never passed through lymphatic glands, and from the observations just cited showing their spontaneous formation in an amorphous blastema, it is the inevitable conclusion that nearly, if not quite all, of the lymph-corpuscles are developed by genesis in the clear lymph-plasma, and that their development goes on as the fluid circulates towards the venous system. With regard to the influence of the lymphatic glands upon the generation of leucocytes, there is no evidence that the corpuscles which are developed in the course of the lymph through these organs are not here, as elsewhere, formed simply from the blastema; and it is not necessary to invoke any special formative action taking place in the peculiar structures of the glands."

Of a book so well known to the profession as Kirkes's *Handbook of Physiology*, and which has now reached its sixth edition, it would be quite superfluous of us to make any further observations, beyond noticing the fact, were it not that the editing and revision have passed into new hnads.

Mr. Morrant Baker, in the Introduction, acknowledges the responsibility he has undertaken, thoroughly to revise the entire book, and bring the present edition up to the standard required by recent investigations, without at the same time losing the unity of style and plan of the former editions. On looking through it we are glad to find most of the book remains intact, and the portions which have been altered or re-written have been done so with care and due regard to modern investigation and research. Yet, while the alterations we have observed can most of them be also classed as improvements, as, for instance, the description at p. 124 of M. Marey's *Sphygmograph*, with various pulse tracings, we must express regret that the opinions of authorities on subjects not as yet uncontrovertibly determined, and which appeared in the former editions, have been omitted in this.

Mr. Baker has added three entirely new chapters—two at the beginning, on the general and distinctive characters of living beings, and the relation of life to other forces; and the third at the end, forming a useful appendix, on the structure of the elementary tissues of the body, hitherto omitted in former editions. The book has, therefore, without being at all cumbrous, been augmented by about thirty pages, while a still greater increase has taken place in the illustrations, so useful to the student, many of which have been taken from the 7th edition of Quain's *Anatomy*.

On the style of the additional chapters and alterations we congratulate the editor, as it is in keeping with the character and object of the book. We can, therefore, confidently recommend it to the student as one of the best manuals on the subject.

On the Management of Labour in Contracted Pelvis. By William H. Jones, M.D. 8vo., pp. 61. London: Hardwicke, 1867.

Without pretending to be a complete treatise on the management of difficult labour, depending on pelvic deformity, this is yet a very able memoir on the subject, and possesses the strong recommendation of being based on clinical facts. It is nearly a literal

translation of the author's inaugural treatise, written for the faculty of medicine of Paris, in the year 1864; and for which treatise a first prize was awarded by the Minister of Public Instruction of France. The progress of obstetrics, as well as of every other branch of human knowledge, is now so rapid, that even within the brief space which has elapsed since this essay was written, some changes of opinion have taken place, more especially with regard to the operation of cephalotripsy, in these countries.

The author tells us that during the years 1857, 1858, and 1859, about fifty-six cases of narrowed pelvis were treated at the hospital of *La Clinique d'Accouchements* in Paris; fifty-one of these came under his own personal observation, and of these he has given the particulars in a tabulated form, whilst the histories of some of them are given in detail. With the experience derived from these fifty-one cases Dr. Jones proceeds to his task, and by a careful examination of the data which they supply, endeavours to throw light on the various practical questions of deep importance connected with the treatment of labours of this description.

The consideration of the induction of premature labour does not fall within the scope of this memoir; but its omission is much to be regretted, as it is intimately connected with the whole subject; and, moreover, by comparison with the induction of labour (as a resource in cases of pregnancy with deformed pelvis), the value of some of the other modes of treatment must be materially affected. For some reason or other this measure has never found favour among French accoucheurs, notwithstanding the accumulating mass of evidence which each successive year's experience brings to attest its value. Of Dr. Jones' fifty-one cases only *three* underwent this operation; delivery in each instance was natural, and all the mothers, and one child, were saved. Two of these cases belong to Dr. Jones' third group, where the conjugate diameter of the pelvis was between $2\frac{1}{2}$ and 3 inches; and the other was in his second group, with a conjugate diameter from 3 to $3\frac{1}{2}$ inches.

The author fully appreciates all the difficulties which beset the practitioner in his conduct of these cases, and he admits there is "no absolute rule by which the accoucheur can regulate his treatment."

"That which we ought particularly to avoid in this, as in every other branch of medical art, is a tendency to act too systematically. In obstetrics especially the spirit of system is pernicious. Inspiration must be drawn from circumstances as they present themselves; therefore, we

cannot attach ourselves to any unique and unvarying mode of treatment which never changes, but submits to its narrow and absolute routine everything which may occur, however different, however dissimilar."

The author distributes his fifty-one cases into four groups or categories, taking the capacity of the pelvis, or, to speak more precisely, the length of the antero-posterior diameter, as the basis of this division. Thirteen of these women died, and of course in each of them the measurement of the pelvis could be ascertained to a nicety; but in the thirty-eight who recovered, we may be excused for asking how the length of this diameter was so precisely determined? No doubt it is only stated to within half an inch, which leaves room for correction, still we should like to have been informed as to the mode of measurement adopted in these cases; for, if our practice is to be regulated by the capacity of the pelvis we have to deal with, it is plain we should employ reliable methods of estimating this capacity. A case which may serve to illustrate this very point is detailed by Dr. Jones. The woman was subjected to a prolonged series of operations, and at the autopsy the pelvis was found to be "more deformed than was supposed, its antero-posterior or sacro-pubic diameter measuring not quite $2\frac{1}{4}$ inches; its left side very contracted." The clinical history of this case is so remarkable, considering where and under whose hands it occurred, that we must give a summary of it:—

The patient, a primipara, aged 19, took her labour at 10 p.m. of 15th August, and was admitted to the *Clinique d'Accouchements* on the morning of 16th. At 9 a.m. the dilatation of the os being complete, M. Dubois ruptured the membranes, but nothing further was done for seven hours, though it must have been apparent that nothing was to be gained by waiting, save the loss of precious time. "At 4 p.m., the labour making no progress, craniotomy was performed by M. Taurin, who immediately afterwards applied the cephalotribe, and crushed the head; but this could not be brought down, in spite of strong tractions. The second time part of the head seemed to come down. The woman was then left until half-past 5, at which hour the cephalotribe was again used, but without being able to get a good hold on the head. M. Dubois again tried, but had great difficulty in inserting the branches of the instrument, on account of the anfractuousness caused by the broken bones of the skull. After two fruitless attempts he adjourned further operations until 8 o'clock. At that hour things were in *statu quo*, the patient having had but slight pains in the interval. Three pills

of extract of opium were administered, and she was left until the morning." Now we would just interpose the question—what possible advantage could be expected from leaving the patient in this state for *thirteen* hours? Nay, rather, was it not calculated in every way to prejudice her condition, and lessen the chances of recovery? No marvel then, that at 7 a.m. next morning, she "was in exactly the same state as regards the labour," but "the skin was hot and dry; pulse at 120." And how could it be otherwise under the circumstances? At 9 a.m. M. Dubois again employed the cephalotribe (its sixth application) but in vain; whereupon M. Taurin introduced his hand to turn, and with some difficulty caught and brought down a foot, but the other could not be extracted. "The cephalotribe was then applied to the pelvis, but all attempts to extract the fetus remained unsuccessful." Much blood now flowed from the vagina, and the woman become pale and faint, which rendered it necessary to suspend the chloroform, and use restoratives. She rallied, but at half-past 10 severe rigors came on, and at 11 she vomited black matter abundantly. At half-past 1 o'clock the other leg was disjointed by the help of the crotchet, and some minutes afterwards the fetus was extracted, "but at the same instant the unfortunate woman expired." At the autopsy, the vagina was found torn; "uterus not completely ruptured, but presenting on its inner side an *enfoncement*, of the finger of a glove shape, penetrating almost through the tissue of the organ. The dimensions of this lesion correspond in size with the blade of the cephalotribe."

The practice pursued in this case is undoubtedly open to severe animadversion; and we venture to say, that had it occurred to a dispensary medical officer in Ireland, he would have lost his appointment, and, in all probability, have been subjected to an action for manslaughter! But, "they manage these matters better in France!!"

Having given the statistics of the four classes into which he divides his 51 cases, the author next proceeds to consider the important question of treatment, in each of the four degrees of pelvic contraction. The title of section I. is, "What ought to be the conduct of the accoucheur when the conjugate diameter of the pelvis is narrowed, but not under $3\frac{1}{2}$ inches?" In answering this question the author does not confine himself to cranial presentations, but describes the treatment to be pursued should the child present preternaturally; and he observes the same course in other sections, which gives the greater value to his remarks.

In these cases of slight deformity the long forceps is the instrument on whose aid he places most reliance, having "too often witnessed its employment at the Hopital of *La Clinique* in such cases, not to be convinced of its efficacy." The only indications he gives for its use, are such as betoken the child to be suffering from the labour. Of course, natural delivery is a thing to be looked for among patients of this class; and six of the author's cases (out of sixteen belonging to this section) were so delivered.

In section II. he discusses the treatment where the sacro-pubic diameter is between $3\frac{1}{2}$ and 3 inches. Here the interposition of art can rarely be dispensed with, though spontaneous delivery is not impossible, of which he gives two examples. Supposing the head to present the course of treatment recommended, he says, by the most eminent modern accoucheurs of France (Dubois, Depaul, Pajot, Blot, &c.) is this, viz:—two to three hours after full dilatation of os uteri to apply forceps and make moderate tractions. If these fail, the blades are to be withdrawn, and the contractions allowed to produce their effect for an hour or two. If no result follow, a second or third application of the forceps is to be tried, and these failing, recourse must be had to embryotomy. With this treatment the author is not satisfied, and, to be candid, neither are we. He here introduces a table to show that the more prolonged the labour the worse is the result to mother and child. But this table does not establish the point so conclusively, for the maternal mortality among the cases in which labour lasted from 24 to 48 hours was a fraction greater than among those above 48 hours; and, furthermore, we find that in his second group of cases the average duration of labour was 46 hours, and the maternal deaths 1 in 15; whereas in his first group, with more pelvic capacity, and average length of labour 33 hours, the deaths were 5 in 16; so that these figures, as far as they go, directly lead to the inference that mere length of labour has no influence upon the result to the mother. Disapproving of the delay which the repeated applications of the forceps necessarily entails, the author takes occasion to consider the alleged advantages of version, as recommended by Ould, La Chapelle, Simpson, and M'Clintock. He enters upon this subject at considerable length, as he thinks this method has been rejected in France without sufficient trial—Cazeaux being the only French author who writes favourably of it.

Having explained the rationale of this method (in which he follows the track of Simpson), he proceeds to quote at great length

from the monograph on the subject by Dr. M'Clintock, in the 4th vol. of the *Trans. of London Obstetrical Society*, reproducing his table and four of his clinical histories. He reviews the operation in its effect upon the child and upon the mother. He does not think version is more advantageous for the infant than the long forceps, but still he is of opinion that "turning ought to replace *repeated* applications of the forceps. It ought to be employed after one or two fruitless attempts with that instrument." As regards the interests of the mother he "has no hesitation in thinking that it (version) is a mode of treatment preferable to the use of the forceps, for it permits us to interfere at an earlier period of the labour;" and he quotes a passage from M'Clintock's monograph, which plainly puts forward the same opinion. It is hard to say whether version or the forceps is the more efficient mode of delivering in cases of contracted pelvis. Probably the acquired skill of the operator would go far to decide the point in any given case. M. Blot extracted a living full-sized child, at full term, by turning, in a woman with deformed pelvis, whose preceding accouchement could only be terminated by cephalotripsy, after two attempts with the forceps; but it is right to state that the face presented; so that the case does not yield a conclusive inference in favour of version. A crucial case, however, was narrated by Dr. Braxton Hicks, in which the long forceps failed to bring the head through the brim, but where, by turning, the child was delivered after some detention, its heart pulsating for an hour and a half after birth.

The third group of cases, with sacro-pubic diameter from $2\frac{1}{2}$ to 3 inches, include *eleven: nine* of the children, and only *one* mother, were lost. The two children saved were delivered by forceps. If the forceps fail, in cases of this degree of pelvic contraction, the chance of saving the child is all but gone, he thinks; the only resource now is between version and embryotomy. From a repugnance to perforate where the child is alive, he gives a preference to version, though fully recognizing the difficulties in the way of its accomplishment. In one of the cases of this series, turning was performed by Dubois—the shoulder having presented. The conjugate diameter was $2\frac{1}{2}$ inches, and the woman was only $7\frac{1}{2}$ months pregnant. After many laborious attempts the right foot was brought out, then the left, and the extraction of the trunk was effected, but no force could get the head away. Detruncation had then to be performed, and the cephalotribe to be twice applied

before the head was removed. The woman recovered. This case very aptly illustrates the difficulties which may be expected when version is performed, the pelvis being much below the natural size; in fact turning, under these conditions, only increases our difficulties, and certainly should not be done if the head be the presenting part In the above case the shoulder presented, so that version was not purely an operation of choice.

The fourth section is taken up with the consideration of the question, "what ought to be the accoucheur's conduct when the conjugate diameter of the pelvis is under $2\frac{1}{2}$ inches?" Here all hope of extracting a living child by the natural passages is inadmissible, so that our undivided attention may and ought to be given to the preservation of the mother's life. Nine examples of this degree of pelvic contraction are tabulated by Dr. Jones—six of the women perished; which fact sufficient evidences the extreme danger to maternal life in such labours. The practice pursued in these nine cases was as follows:—*one* underwent Cesarean section, and died two days afterwards; in *two* cases of breech presentation, detruncation was followed by cephalotripsy; in *five* cases, a direct application of the cephalotribe was made to the head; in *one* case version was performed after cephalotripsy, and the woman died immediately. The history of this last case has been quoted already. One patient died undelivered; the conjugate diameter of her pelvis was $1\frac{1}{2}$ inches; the cephalotribe was applied seven times in the course of as many hours, by M. Dubois, but without success. Cesarean section seemed the only chance of delivery, but M. Dubois thought it was better to wait (she having already been upwards of four days in labour), fearing she would die under the operation, so nothing further was done, and she died in four hours.

The author admits that in labours of this class the forceps is "powerless," and "that its use would even be injurious, as it would unnecessarily fatigue the patient." In like manner, he says, version can be of no utility to the child, is difficult of accomplishment where the pelvic diameter approaches to 2 inches, and a resort to embryotomy is almost always required to extract the head and shoulders. Still, he seems to think, that as an adjuvant to embryotomy, it may be advantageous. "By means of version the hand of the accoucheur may succeed in placing the base of the skull in such a position as to make the use of crushing instruments efficacious. At other times, turning can, by changing its position, draw out the head, already crushed by the cephalotribe, but which has

resisted all tractions made by this instrument." The performance of turning after perforation, or cephalotripsy, has been advocated by some English accoucheurs; and, whilst we admit that in some cases it may facilitate the extraction of the child, yet we very much doubt if it can subtract ought from the danger to the patient. It is just an alternative measure which may, on rare occasions, be resorted to with advantage, and which, therefore, a judicious man will not altogether forget. In cases of extreme pelvic distorsion, Dr. Jones says that there is great difficulty in applying the cephalotribe in such a manner as to act on the base of the skull, or even to get a secure hold of the head. Even M. Dubois, with his great experience and well-known dexterity, can sometimes hardly succeed. The instrument of Depaul is provided with a crotchet at the superior and internal part of each blade, so that if once properly applied, we have a firm hold of the head and can exercise powerful traction. But we would ask—is it wise, is it safe, to apply the instrument to this use? Because we may have a firm hold with it, are we, therefore, to extract with it? We think not. To use it as an extractor is, in our opinion, an abuse of the instrument. The special object and purpose for which it is fitted is to crush and break up the head; and if this be thoroughly done, its extraction can be easily effected, and by much safer means.

The cephalotribe described by Dr. Kidd, in his papers published in late numbers of this Journal, is very much smaller in its dimensions than those Dr. Jones has been accustomed to see in use in the Parisian hospitals, and it is easier of introduction, and safer in its application. It is specially fitted for thoroughly crushing the head, while its powers as a tractor are very limited. Instead of making forcible extraction, Dr. Kidd recommends the adoption of M. Pajot's plan of repeated crushings without traction. Dr. Jones also describes the method of operating adopted by M. Pajot, who perforates as soon as the os uteri is sufficiently dilated to admit the passage of the cephalotribe, and applies this instrument at repeated sittings, till the head is so broken up that it can be expelled by the uterine powers; and this early interposition of art is, no doubt, one important condition of success in these untoward cases. M. Pajot has published the particulars of seven cases treated in this way, five of which were successful.

Where the degree of pelvic contraction reaches so low as two inches or under, the danger consequent upon delivery, *per vias naturales*, becomes so great, as nearly to equal that of Cesarean

section, so that an exclusive regard for the mother's life would incline us to the latter. Before deciding, however, which of these two operations should be performed, there are other points besides the size of the pelvis to be carefully considered, viz., the period of pregnancy, the condition, and probable size of the child. Professor Depaul, Cazeaux, and Professor Velpeau, all fix upon two inches as being about the smallest capacity of pelvis in which embryotomy should be performed. Upon this important question we may be excused for quoting one of the latest, and, at same time, one of the highest authorities, Dr. Greenhalgh:—"Nothing would ever again induce me to attempt the delivery of a patient at the full period of pregnancy, by craniotomy, whose pelvis did not measure fully two inches in the conjugate diameter of the brim—except I had strong reason to believe that the fetus was in a decomposed state, or premature; and not even then, if her powers had been much taxed, or the soft parts inflamed, or otherwise damaged."

Report of the Committee appointed by his Excellency the Lord Lieutenant *to inquire into the Dietaries of the County and Borough Gaols in Ireland. Blue Book.* Dublin, 1868. Pp. 88.

The committee, whose report we have before us, was nominated some months ago to inquire into the dietaries in the County Gaols of Ireland, and to frame a dietary such as would be fitted for prisoners condemned to hard labour. They were instructed while doing so to keep in view the ordinary food of the labouring population throughout the country as well as the dietaries in the workhouses. The duty thus imposed upon the members of the committee required that they should before making their final recommendations investigate three distinct subjects—

1st. The existing scales of diet in use in the County Gaols of Ireland.

2nd. The dietary of the labourer, small farmer, and artizan throughout the country.

3rd. The dietary in use in the workhouses.

In their inquiry into these topics the committee have accumulated a vast deal of information which is both interesting and instructive, and indeed calculated to throw some light on the present improving condition of this country.

In order to obtain a general view of the dietary adopted by the

agricultural labourer, the small farmer, and in some cases the artizan, letters were addressed by the committee to members of the medical profession in every county of Ireland, most of them medical officers of dispensary districts. A few communications were made to clergymen. Some of the most important of the answers to these letters appear in the appendix, from which we extract the following:—

From the Rev. S. Dixon, Rector of Clogherny, County Tyrone.

"The Poor Law Guardians say that the dietary of the workhouse is superior to that of the labouring classes outside; that the inmates of the workhouse receive oatenmeal and sweet milk, in place of Indian meal and buttermilk; but the poor people themselves think differently; they speak of the porridge and milk being both poor and watery, and of their food being badly cooked. There are several circumstances however which are calculated to make workhouse diet distasteful to them, independent of the quality and preparation of their food, and these probably influence their judgment. I have no hesitation at any rate in saying that the diet of the workhouse is not such as to offer any inducement to the poor to enter it.

"I have never heard, nor do I believe, that crime has ever been committed in this neighbourhood with the object of 'getting into gaol,' and thereby procuring a better diet."

From the Right Rev. Dr. Moriarty, Killarney:—

"November 22, 1867.

"The ordinary diet of the peasantry consists of the potato and Indian meal bread. The potato is largely used, by some almost exclusively used from July to Christmas. Indian meal more used from Christmas to July.

"Many working men have one meal of Indian meal bread, the other of potatoes; they find it easier to work on a breakfast of bread.

"I have observed that fever invariably increases with an abundant crop of potatoes.

"Scarcely any animal food is used in the country except the veal of calves killed immediately after they are born.

"In towns where much meat is slaughtered I hear that even the poorest generally get a little every day; this was particularly the case in Tralee, where an enterprizing Scotchman, named Lunham, carried on a large trade in bacon, and slaughtered many hundred pigs every week. If all Irish meat was slaughtered before leaving our shores, the food of the Irish people would be greatly improved.

"The use of bread is more general amongst the labouring class than formerly, and the use of tea is fast becoming universal."

As to the insufficiency of the dietary hitherto in use in the county gaols there is indeed singular unanimity among the governors and medical officers of those institutions. Of thirty-nine governors, all save seven, of the medical officers all save two, testify to the insufficiency of the diet. Is it not surprising under such circumstances that the Inspectors of county prisons, cognizant as they must (or at least ought to) have been of these facts, should not ere now have insisted upon directing the attention of Government to this important subject?

The concluding part of the report embodies the recommendations of the committee—recommendations which appear to us to be full of sound and practical good sense, and which, we are happy to learn, have been already adopted by the Government in the county gaols throughout Ireland. In this portion of their report the members of the committee wisely, we think, express their conviction, that in performing such a task as was confided to them, they would have been diverging into a useless undertaking in entering upon considerations as to the chemical constituents and ultimate analysis of food.

"It appears to us," they say, "that in proposing dietaries for the different classes of prisoners in the Irish gaols, it is unnecessary to overload our report with details as to the elementary analysis of the food recommended. For the questions as to what amount and what quality of food may be necessary to support health, by addition of material or by prevention of waste of the body under a given amount of labour, seem to depend on considerations to a great degree apart from those relating to its elementary analysis.

"In this inquiry we gain little in a practical point of view by determining the actual amount of nitrogen, carbon, oxygen, and hydrogen which are supposed necessary for the support of life under varied circumstances; were we to do so we should have to deal with differences of opinion among scientific men. If these elements were administered in their simple state, and in a supposed due proportion, they would in no case support life. But when taken in most of the forms of combination in which they exist in animal and vegetable matter they become nutritive. Hence the question is rather more as to the quantity and quality of food than its ultimate elements. It is more a question what kind and amount of food is proper, than what relative amounts of nitrogen and carbon, of oxygen and hydrogen should be given. The human digestive and respiratory systems are laboratories no doubt, but they are living laboratories, and so, purely chemical considerations are, at least at present, insufficient to explain their results.

"And even if we were to give the absolute quantities of these elements in each article of food, together with their cost as related to these quantities, we should not necessarily arrive at any correct notion of the nutritive value or the relative cost of the food, inasmuch as all these elements may exist in combinations whose dietetic properties, whether as regards the addition of material or the prevention of waste, are held to be of the lowest value; while the expense of various articles of food of the same, or of very similar ultimate composition, may be very different. For similar reasons we do not think it necessary to deal with even the proximate analysis, as such could merely give, in relation to the nutritive character of a dietary, results which would be only approximative, and would furnish no means of estimating the cost. Besides the amounts of albuminous, starchy, or oily matters, there are other substances necessary for the support of life, and these are presented in varying quantities, especially in vegetables, so that in the end experience will have to be resorted to; and as in the case of the ultimate analysis in relation to food, so in that of the proximate, there are wide differences of opinion among scientific men."

There are not a few questions entered upon in this report, upon the discussion of which we should gladly enter did our space permit. Among these the questions of reduced diet as a means of punishment for prison offences, or of increased diet or "reward diets" for those who are well conducted in prisons, are of the highest interest.

The committee is not favourable to the system of punishment by reduction of diet, in as much as they consider it likely to induce the bodily evils which are produced by defective nutriment, and so weaken that power of self-control which is the sole means of avoiding the repetition of their offence.

The arguments for increased diet for good conduct do not appear to the committee sufficiently strong to induce them to advocate the system of "reward diets," a system, we would add, which in a modified form is found to work well in the Continental prisons.

We hope that the Chief Secretary for Ireland may not overlook a concluding paragraph of the report, which is in itself a condemnation, by three independent medical gentlemen, of the arrangement lately sanctioned by his Lordship in the medical arrangements in the Irish convict service.

"We would in no way counsel any diminution of the powers of the medical officers of prisons, the importance of whose functions both as to the health of the prisoners and the due execution of the law, it is difficult to overestimate. In Ireland, more perhaps than in any country with which we are acquainted, the surgeon has to perform the difficult

and responsible duty of determining questions as to the remission of sentences in consequence of illness, alleged or real; and under these circumstances there is sometimes brought to bear upon him a great pressure from without. *Such an officer should be chosen from the best ranks of his profession, and should above all things occupy a perfectly independent and honourable position.*"

The Liverpool Medical and Surgical Reports. October, 1867. Edited by F. T. Roberts, M.B., B.Sc., Lond., and Reginald Harrison, F.R.C.S. London: John Churchill, New Burlington-street. Liverpool: Adam Holden, 48, Church-street.

This volume proceeds from the Royal Infirmary and School, the Northern Eye and Fever Hospitals, and the Ladies' Charity, and we are glad to see so many of the institutions have combined in its production, their only rivalry seeming to be as to who should attain the greatest perfection, and we can promise that such "endeavours to promote and foster clinical inquiry" will be appreciated so long as medicine is cultivated by earnest and thoughtful men.

I. *Cases of Paralysis, with Clinical Observations.* By James Turnbull, M.D., Physician to the Liverpool Royal Infirmary.

In this paper four cases are described. In the first there was hemiplegia, with muscular rigidity and pain following epileptiform convulsions. It was treated by leeches to the head, counter-irritation by blisters to the nape of the neck, bromide of potassium and galvanism; a perfect recovery followed.

The second case is that of a sailor, aged twenty-one, who was admitted to the hospital after a week's illness, of which no clear account could be obtained. He had complete loss of power of the lower part of the body, and extensive sloughing over the sacrum. Dr. Turnbull thinks it probable there was extravasation into or upon the spinal cord. Under the use of stimulants, quinine, and nutritious food, he quickly began to recover. The third and fourth cases are examples of paralysis occurring in syphilitic patients, and treated with mercury and iodide of potassium.

II. *Injuries of the Trachea, with Remarks.* By James Long, F.R.C.S., Consulting Surgeon to the Royal Infirmary.

Mr. Long records a very interesting and noteworthy case of injury to the trachea in a boy, aged six, who, from a fall, got a lacerated wound in the neck, opening into the mouth. General emphysema

ensued, with such distress that tracheotomy was performed. Seventeen months afterwards, it being still impossible to remove the tracheal tube, as he could not breathe without it, Mr. Long laid open the cricoid and thyroid cartilages exactly in the median line. A large fungous granulation now slipped forward and was removed, and also a smaller one, the size of a split pea, from the right chorda vocalis. The boy now made an excellent recovery; the opening in the trachea closed, and he quite regained his voice. No mention is made of the use of the laryngoscope in this case. It seems to us possible that by its aid the obstruction might have been removed by a less serious operation. Mr Long gives, in connexion with this case, an account of the present condition of a man whose trachea had been completely severed eleven years previously, and also the *post mortem* appearances in the trachea of a woman who had been forcibly strangled.

III. *On Croup.* By Thos. Inman, M.D., Physician to the Liverpool Royal Infirmary.

The following are the conclusions to which Dr. Inman arrives as to the treatment of this affection:—

"1.—In slight cases no medicaments are necessary; hot moist air and local warmth suffice; talking and laughing are to be deprecated so long as the laryngeal muscles are irritable; fever may be subdued by the free use of oil to the skin. 2.—In more severe cases an emetic of ipecacuan will relax the arid mucous membrane, and thus put an end to that distressing dry stage with which we who suffer from catarrh are so familiar. 3.—To reduce the irritability of the laryngeal muscles opiates may be used, both locally and generally. 4.—We must next endeavour to remove, as far as possible, every irritant from the sensitive spot; and to effect this every breath which is inhaled should be of the temperature of the body, and moist as is the human breath. 5.—Such symptoms as thirst and feverishness may be met by any drink the patient selects; it is certain that under such circumstances a child will neither select spirits, wine or ale. 6.—The occasional inhalation of chloroform may be adopted, if the patient when first seen is in very low condition."

IV. *Deposit of Strumous Matter within the Globe of the Eye, simulating Malignant Fungus, with Remarks.* By R. Hibbert Taylor, M.D., Senior Surgeon to the Eye Infirmary, and Lecturer on Ophthalmic Medicine and Surgery to the Royal Infirmary School of Medicine.

A girl, aged fifteen, for four months had pain over the left eye-

brow, of a dull, heavy character, worse at night. Vision gradually declined, and was lost altogether. The globe was enlarged in the form of two rounded elevations, as large as peas, covered with vascularity; no pain on pressure, but the eyeball firmer than natural. On looking into the pupil there was an opacity behind it, of a yellowish wash-leather hue, of a metallic lustre, with red vessels running over it. It appeared a new growth of soft consistence. No photopsia or muscæ; general health impaired. It was thought to be malignant disease, probably a fungus, but one of the swellings began to point, and on its being punctured with a broad needle a large quantity of pus escaped. The swelling diminished, the opacity retreated further back, lost its metallic lustre, and some power of vision was recovered. She left the hospital on 7th May to have country air, but returned on 26th of the same month. The eyeball had again enlarged; vision was quite lost; the general health was much impaired, and she suffered great pain. Puncture now failed to give relief. The eyeball was extirpated, and the patient improved in all respects, and left the hospital again on 17th June.

On making a vertical section of the globe after its removal, a thick layer of curdy-looking strumous matter was found to be interposed between the inner surface of the sclerotica and the more internal tissues, the choroid and retina being pushed towards the centre, and the vitreous humour much diminished in quantity and disorganized. Dr. Taylor sums up with remarks on the close resemblance of the case to malignant fungus in its early stage, and on the complete and permanent relief afforded by extirpation.

The next papers are on Water and its Impurities, by Mr. Birkenhead, Lecturer on Chemistry and Toxicology at the Liverpool School of Medicine. A description of a case of True Hermaphroditism, with Remarks, by Dr. Rawdon, Pathologist to the Infirmary, and an account of the Anatomical Peculiarities observed during the winter session 1866-67, by Dr. Roberts, Demonstrator of Anatomy. These are very valuable communications, of a high scientific character, but it is sufficient to refer to them at present.

VIII. *Six Cases of Primary Amputation at the Shoulder-Joint.* By H. Lowndes, Surgeon to the Liverpool Northern Hospital.

In this paper Mr. Lowndes relates all the cases in which he performed primary amputation at the shoulder-joint in the Northern Hospital. Of the six, one proved fatal. The man had a fractured rib of the opposite side; got emphysema and acute pleurisy. The

immediate cause of death was the occurrence of secondary hemorrhage. In one of the cases acupressure was used, and Mr. Lowndes states that he had given this method a rather extensive trial in his operations, but he found it by no means so easy of execution as deligation. He was disappointed in obtaining immediate union by its use, and he often found it difficult to remove the needles. He has therefore given it up. In one case it failed to control the hemorrhage.

Mr. Lowndes states that amputation at the shoulder-joint has been more successful than any other great amputations in his experience. Of the six cases only one proved fatal, whereas of three primary amputations of the thigh all proved fatal—in fifteen of the leg below the knee five were fatal, a mortality of 33 per cent.

IX. *Table of Operations of the Liverpool Royal Infirmary from August*, 1866, *to August*, 1867, *with Remarks.* By Chauncy Puzey, House-Surgeon.

This table includes 330 operations, mostly performed for disease rather than for accident, as all the casualty patients from the docks are taken to the Northern or Southern Hospitals. An outline of the more important cases is given.

X. *Clinical Enquiry into the Results of Hancock's Operation, or the Division of the Ciliary Muscle in certain Serious Deep-seated Affections of the Eye.* By J. Birkbeck Nevins, M.D., Surgeon to the Liverpool Eye and Ear Infirmary, and Lecturer on Materia Medica in the Royal Infirmary School of Medicine.

Dr. Nevins contrasts iridectomy and Hancock's operation. He reports eight cases. The following extracts will show the author's conclusions:—

"General Conclusions.—The foregoing are not picked cases, but they have been taken as they presented themselves in practice. Cases of minor severity, in which the operation has been performed as a precautionary measure, have not been introduced. And those cases have not been mentioned in which it has been performed in the hope that it might possibly supersede the necessity for iridectomy, but in which the hope has not been fulfilled, but this operation has still been necessary. Such cases have been but few, and the patients have not been worse off in consequence of the proceeding, and they have had the chance given of being saved the more formidable operation.

"The cases reported above have been generally of a very grave character. The loss of vision has been extreme in some instances, and considerable in all, and the pain has generally been to an urgent degree. They have not been styled "glaucoma" in their titles, as this name has been the subject of so much controversy, that I have preferred describing the parts of the eye affected, and the symptoms, to using a term of disputed meaning. Some of the cases might, however, have been properly termed glaucoma, and others have been aggravated cases of rheumatic affection. It may be noted that the case in which the smallest amount of benefit was derived was the last of the series, and it was distinguished from all the others by the marked absence of pain. Sluggish strumous degeneration of the eye was its chief characteristic; and whilst those cases in which pain and rapid loss of vision were prominent features, were benefited to a degree beyond our earlier expectations, this, in which pain was absent, and there was no appreciable tension of the globe, was improved in a very minor degree.

"The operation itself is often, perhaps we may say generally, accompanied by an amount of pain, for which it is difficult to account; and it is sometimes three or four hours before this pain subsides; but when it does cease, the sleep succeeding the operation the first night, and the freedom from return of pain, are well-marked results of the operation.

"The operation generally leaves little or no mark of its having been performed, but if there is much straining on the part of the patient, by holding the breath or otherwise, a minute portion of iris sometimes protrudes in the wound, and a slightly oval pupil is the result. I have seen the accident occur sufficiently often to show that care must be taken to guard against it; but no permanent disadvantage arises from it, beyond the slightly altered figure of the pupil.

"On the whole, the result of the operations has been so decidedly favourable as to raise this mode of treatment to a high position in the estimation of my colleagues in the Eye Infirmary, as well as in my own; and these cases are published in the hope that they may promote our knowledge of a valuable and simple operation, which may be substituted, in a large proportion of cases, for the more serious one of iridectomy."

XI. *Contributions to Practical Midwifery.* By A. B. Steele, Lecturer on Midwifery at the Liverpool Royal Infirmary School of Medicine, &c.

Cases Illustrative of the Use of the Forceps.—In this paper Dr. Steele urges the early use of the forceps "in those cases in which labour has been inordinately prolonged, or in which there is reason to believe that it will prove tedious, although none of the symptoms

may have yet appeared which have been held to be essential indications for instrumental interference.'

Dr. Steele recommends a forceps having a pelvic as well as a cranial curve—an opinion in which none of our Dublin authorities will agree, however fully they may coincide in recommending the giving of assistance early where there may be necessity for it.

XII. *Observations on Fever in Liverpool.* By Robert Gee, M.D., &c., Physician to Liverpool Workhouse and Fever Hospital, Lecturer on Diseases of Children at the Royal Infirmary School of Medicine.

In this paper Dr. Gee analyses the causes of the great prevalence of fever in Liverpool. He shows that the situation of the town and the sanitary arrangements are very good, but that there is a large amount of destitution, intemperance, overcrowding, and dirty and slovenly habits. These serve as predisposing causes, and the exciting cause he believes to be direct contagion from personal communication between the sick and healthy.

XIII. *Observations on Lithotomy, being the Substance of Two Clinical Lectures delivered at the Royal Infirmary.* By E. R. Bickersteth, F.R.C.S.E.; Surgeon to the Royal Infirmary, and Lecturer on Surgery.

These lectures are founded on a case in which the bladder was divided into two compartments by a muscular ridge running between the ureters. The calculus lay in the uppermost of these, and it was only after a protracted search that it could be found and extracted. The man never rallied, and died the same afternoon. The author describes the several steps of the lateral operation, and illustrates them by diagrams.

XIV. *Table of Operations performed at the Liverpool Northern Hospital, with Remarks.* By John Bradley, House Surgeon.

XV. *On the Mechanical Treatment of Some Forms of Dental Irregularity.* By Joseph Snape, L.D.S., Dental Surgeon to the Royal Infirmary, and Lecturer on Dental Surgery at the School.

This paper, which concludes the volume, is a most valuable and scientific essay on the treatment of dental irregularities. Mr. Snape gives drawings, showing the methods in which these irregularities should be corrected, and proves how effectually this may be

done without resorting to the ignorant, barbarous, and clumsy method of extracting teeth.

We cannot conclude our notice of this volume without congratulating our Liverpool *confreres* on the practical skill, scientific excellence, and thorough earnestness manifested by their contributions to its pages.

The Morbid States of the Stomach and Duodenum, and their Relations to the Diseases of other Organs. By Samuel Fenwick, M.D., Member of the Royal College of Physicians; Lecturer on Comparative Anatomy at the London Hospital Medical College; Assistant Physician to the City of London Hospital for Diseases of the Chest; formerly Lecturer on Pathological Anatomy in the University of Durham. London: John Churchill and Sons, New Burlington-street. 1868.

There are few circumstances in the course of medical investigation and progress in the knowledge of disease more noteworthy than the frequency with which popular instincts, as it were, and the ordinary everyday habits of expression on the subject of bodily health and economics, give utterance to views which require scientific investigation and arrangement to enable us to distinguish in them the truth which underlies the erroneous method of expression.

How many are the instances which we can all recall in which the description of the "stomach, being out of order," has conveyed to the physician the saddening intimation of serious, or perhaps hopeless disease of other organs, the impairment of whose functions may be so slight as not to attract the attention of the patient at all, or possibly to escape even all but the most searching inquiry on the part of the physician. It is to this phase of diseases of the stomach "as influencing other portions of the system, modifying the progress of various maladies, and giving rise to changes in the texture and functions of the different structures of which the body is composed," that Dr. Fenwick chiefly directs our attention in the book now before us, late writers on diseases of the stomach having been chiefly occupied by the alterations in anatomical structure, and by the impaired efficiency of the organ itself.

The cotemporaneous affection of various organs in disease seemed to Dr. Fenwick so important that he entered extensively into a

series of microscopic investigations into the condition of all the principal structures in persons dying of different maladies, but, from want of material, was compelled to limit his observations to the digestive canal in order to determine whether, and how often, this part of the body is affected in different disorders, and how far such affections tend to modify the course or increase the gravity of the original malady. He has also endeavoured to keep prominently in view how far the derangements of digestion are capable of producing morbid changes in other parts of the body, and this particularly with reference to the causes of the tuberculous and atheromatous formations, and to the important question as to whether these may not be indications preceding their actual formation.

That Dr. Fenwick has brought powers of very high order as a physiologist and microscopist to the elucidation of questions arising from the consideration of such an abstruse subject is at once evident, as is also the fact that he has applied these powers in such a manner as to show that he combines with them the highest qualities of the practical, painstaking physician, and it is chiefly in the latter character that we desire to introduce him to our readers.

The introductory chapter gives a full description of the position, relations, structure, and functions of the stomach and duodenum, and of the various methods of conducting the physical examination of the patient:—

"Auscultatory percussion is by far the best mode of defining the extent and position of the stomach. I have been in the habit of using this means of examination for many years, and was not aware that it had been previously described; but the following extract from Dr. Aitken's 'Practice of Medicine' shows that it has been applied to other organs:[a]—'A solid cedar cylinder, six inches in length, and one inch in diameter, cut in the direction of the fibres, and with an ear-piece attached, is applied to the centre of the præcordial region, while the ear is applied to the other end; percussion is then made by another person from the point near where the cylinder is applied towards the limits of the heart in every direction. So long as percussion is made over the body of the heart a distinct shock is felt directly in the ear; but as soon as the limits of the heart are passed this sharp shock immediately ceases, even in passing from one solid organ to another in contact with it, as from the heart to the liver.'—*Drs. Camman and Clark.*

"The manner in which I employ 'auscultatory percussion' to the

[a] Aitken's Science and Practice of Medicine, Vol. ii., p. 706.

stomach is as follows:—The patient being laid on his left side, so that the gas contained in the stomach may rise to the pyloric region, the cup-shaped end of a 'Camman's Stethoscope" is applied to a part in the epigastrium, where, by percussion, I have ascertained that the tympanitic sound exists. I then strike the epigastrium sharply with the fingers, commencing close to the point at which the stethoscope is placed, and mark with ink the line at which the shock of the blow ceases to be felt directly in the ears. By moving the patient, so that he lies first on the back and afterwards on the right side, the gas is made to distend each region of the stomach in turn, and so the outline of the whole organ is completed. There is a chance of error if the stethoscope be placed over a dilated colon instead of the stomach; but when there is reason to suspect that this is the case, the patient should be examined before food, and the boundaries of the stomach having been marked out, the examination should be repeated when the organ is in a state of distension."

The microscopic examination of vomited matters affords valuable information, and Dr. Fenwick gives clear directions as to the best plan of procedure.

He also treats fully of the effects of *post mortem* solution of the stomach, and says that the description given by John Hunter, who was the first to notice it, can scarcely be improved upon:—

"In discussing this subject, the first point to be settled is, whether considerable softening can take place in the gastric mucous membrane as the result only of changes occurring during life. It is almost impossible to determine this point on the human subject, on account of the long time after death at which *post mortem* examinations are usually conducted. But in the lower animals there is not the same difficulty. In cattle plague, for instance, we find the mucous membrane of the stomach very red, thickened, and often excessively soft. In such cases there was no ground for doubt as to the cause of the softening, for the animals had been slaughtered, and the stomach removed and examined immediately. We can, therefore, arrive at no other conclusion than that the mucous membrane of the stomach is liable, like other organs of the body, to softening from inflammatory action alone."

While admitting that in the majority of cases the softening is due to *post mortem* solution, Dr. Fenwick is of opinion that the following experiments show that the appearances presented by the mucous membrane, even when it has been acted on by the gastric juice, depend much upon its condition during life:—

"I placed in an artificial digestive fluid three pieces of human stomach, one of which was healthy; the second presented appearances of fatty

degeneration along with destruction of the tubes; in the third the tubes were mostly replaced by fibrous tissue, and the vessels were loaded with blood.

"After a few hours' digestion, the first piece was reduced to a pulp, capable of being washed away by a gentle stream of water; the second was gelatinous, of a yellow colour, transparent, and although softened, tolerably firm; the third formed a black, opaque, gelatinous mass, quite unlike either of the others.

"It is very evident from this experiment that, although we may attribute the act of softening in most cases to *post mortem* digestion, the various appearances of the mucous membrane should be carefully noted, as they may represent very different conditions that had existed during life."

From the much greater effect exercised by an artificial gastric fluid on healthy than on inflamed or otherwise diseased gastric mucous membrane, Dr. Fenwick further concludes:—

"As, therefore, the amount of the gastric juice secreted is smallest, and the state of the mucous membrane renders it least liable to be affected when it is most diseased, so we find that the cases in which there is the greatest amount of morbid change are those which are least affected by *post mortem* digestion."

In noticing the quantity of digestive juices daily thrown out from the blood vessels, and again absorbed into the circulation after having been enriched by the products of digestion, estimated by Bidder and Schmidt at from fourteen to sixteen pounds, Dr. Fenwick remarks that this calculation, founded on the result of experiments on the lower animals, is probably below the truth, it having been found that the mean daily quantity secreted by a woman affected with gastric fistula was thirty-one pounds, or more than one quarter the weight of the whole body.

"It is impossible to consider this vast amount of fluid daily circulating through the digestive canal, without believing that any long-continued diminution in quantity alone must be liable to derange the functions of some of the other organs of the body. Moreover, we are as yet ignorant what effects the non-excretion, or the resorption of the peculiar principles elaborated by this vast extent of glandular structure may have upon the general health; whether, for instance, the non-excretion or the resorption of the pepsin and lactic acid which must occur in many of the diseases of the stomach, gives rise to changes in the blood in the same way as the non-elimination of urea does in affections of the kidneys."

The second chapter treats of "Acute Gastritis," of which, as an

actually existent disease, Dr. Fenwick details some well-marked cases, with the *post mortem* appearances.

Many of the older writers mention inflammation of the stomach as often occurring from suppressed gout, but of late years the existence of this form of gastritis has been very generally denied. It has been supposed that the cases formerly described were only instances of severe indigestion.

A very striking case of this form of disease is here given at considerable length, and Dr. Fenwick remarks:—

"There can be no doubt that it was an instance of acute gastritis; and the rapid disappearance of the malady after the invasion of the gout points to a connexion between the inflammation of the stomach and the affection of the joints. It was in reality a case of poisoning; the irritating material being lithic acid in the blood, instead of arsenic or antimony directly applied to the mucous membrane."

The flatulent dyspepsia, not infrequent in gouty subjects, which, notwithstanding its apparently serious symptoms—the epigastric pain, but without tenderness or vomiting, the pale, anxious face, the feeble pulse, the quick and constrained respiration—is generally relieved by counter-irritation, and a diffusible stimulant, must not be confounded with acute gastritis.

No instance of acute gastritis having attacked individuals in perfect health has ever come under Dr. Fenwick's notice.

The chapter on Sub-acute Gastritis is equally valuable, and traces the connexion between "bilious attacks" and impending phthisis. Persons who become affected with phthisis are peculiarly subject to these attacks; but they often cease before the symptoms of the disease of the lung manifest themselves. The tendency to them is more frequently inherited than any other form of dyspepsia; they frequently arise from fermentation of the food, and in such cases the green-coloured vomited matter will be found to contain torulæ.

"In cases of fermentation the diet should be carefully regulated. Tea, coffee, milk, arrow-root, rice, and similar fluids, so often forced upon the patient during a 'bilious attack,' should be forbidden; and iced water, soda water, Seltzer water, and beef-tea should be substituted.

"As regards remedies, I have generally prescribed creasote in doses of one drop, combined with magnesia; but if there be much subacute inflammation of the mucous membrane the hyposulphite of soda will be found more useful. For some time after the attack has subsided, vegetable tonics in combination with acids or alkalies are required."

The occurrence of subacute gastritis in anemic females has not escaped observation.

"In most of the instances of subacute gastritis occurring in the female, it will be found that the catamenia are deficient. In various affections of the uterus we meet with subacute inflammation of the stomach, but the most marked cases are seen in persons in whom narrowing of the canal of the cervix uteri prevents the free excretion of the catamenial discharge."

A case is here given in which the canal of the cervix having been freely incised, with scarcely any other treatment, the gastric disorder ceased, and the patient regained her health and strength.

"Care must be taken that the gastritis is really dependent upon the uterine affection, for these diseases may co-exist without there being any connexion between them.

"We should therefore ascertain before commencing the treatment whether the gastric symptoms are greatly aggravated during the catamenial period, and whether there be really such a condition of the uterus as to require surgical interference."

Those who have made diseases of the digestive organs a special study will naturally turn to the chapter on ulcerations. The subject is confessedly a difficult one to treat, and the author has adopted a classification of the different varieties founded upon their pathology, and he has worked it out well.

Chapter IV., on the Condition of the Stomach in Fevers, begins with a description of the morbid appearances of the stomach in cattle plague.

"Where the animals had been slaughtered within a few hours of their being attacked by cattle plague, the morbid appearances in the mucous membrane of the stomach were limited to great congestion of the blood-vessels, and to the stripping off of the conical epithelium, which in a normal state covers the upper ends of the gastric tubes. In place of this epithelium there was an exudation of granular matter, and, in consequence of the bare condition of the ends of the tubes, their openings on the surface were unusually large and prominent. The stomach always contained some mucus, in which were masses of epithelium presenting the shape and appearance of the tubes from which they had been removed.

"When the disease had existed a little longer, the round gastric cells were affected in addition to these changes. They seemed to have been loosened from the basement membrane, and were irregularly scattered through the whole length of the tubes, as though in process of expulsion;

whilst between them was a deposit of granular material, showing that the inflammation had now reached the lower ends of the tubes.

"Where death had been deferred until the second or third day of the disease, all the normal gastric cells had disappeared, and the tubes only contained granular matter with a few thin, flat, and very transparent cells. The tubes were consequently much smaller, and were so soft that sections through their whole length were obtained with difficulty. But in addition to these changes the tubes, which in the earlier stages could be easily separated from each other by gentle pressure, were now found to be closely united together, and cells and nuclei could be observed between them. The blood-vessels were everywhere much injected, and ulcerations were observable on the surface of the membrane.

"The morbid appearances were not confined to the stomach; the mucous membrane of the intestines was similarly affected. Effusions of blood or of granular matter were observed in the intestinal villi and glands, and in the later stages of the disease ulcerations of the mucous membrane had taken place in various parts."

Arguing from the analogy between cattle plague and many other epidemics affecting man in hot climates, such as cholera, yellow fever, dysentery, &c., Dr. Fenwick is of opinion that similar morbid actions may occur in the eruptive fevers with which we are more familiar at home, and in which the skin seems to act as an eliminator of the animal poison. He states that in scarlatina the mucous membrane of the stomach and bowels is inflamed; that desquamation occurs on this membrane as it does on the skin; and that the form of inflammation is analogous to that which we observe on the external surface of the body, and gives sixteen observations in which this view is supported by the results of *post mortem* examinations; and Dr. Fenwick observes:—

"As in all of them the mucous membrane of the digestive tube was more or less inflamed, I think it probable that this condition is a general accompaniment of the fever. Since, however, the inflammation varied greatly in degree in different persons, and also in different organs in the same individual, it will, I think, be found that the intensity with which the mucous membranes are attacked varies according to the type of the epidemic, and the age and constitutional peculiarities of the persons suffering from the disease. The severity of the affection of the stomach and intestines is not necessarily in proportion to that of the skin and throat; for in some of the above cases little redness was observed in the latter, when the former were intensely inflamed."

It is difficult to prove that desquamation of the epithelium of

the stomach and intestines takes place in scarlatina, and Dr. Fenwick's chief reason for the opinion that such occurs is derived from the microscopic examination of the contents of the stomachs of those who have died of the fever. It is probable that the mucous membrane assists the skin in its office as an eliminator of the poison:—

"This is not, however, sufficient altogether to account for its disappearance, as will be seen in the following experiment. Some sections were made of the mucous membrane of the stomach of a person who had died of scarlatina in the second week of the disease. When examined microscopically, the tubes were observed to be distended, and the cells very obscure; but, after digesting the sections in a weak solution of nitrate of potash at blood heat for some hours, a complete change in the appearance was produced. The granular matter was entirely removed, and a cavity could be seen in the closed ends of the tubes bounded on all sides by the cells with which the basement membrane was lined.

"If, then, the granular material remains at the closed ends of the tubes after the layers of cells at their upper and free ends have come into contact, it is evident that desquamation alone is not sufficient to account for its ultimate removal. Its ready solubility in the saline solution naturally excites the suspicion that it may be resorbed into the circulation, and that in this way the mucous membrane is gradually restored to its normal condition.

"We know that albumen in a state of solution, when injected into the veins of an animal, is eliminated by the kidneys; and, as in scarlatina, the urine becomes albuminous in the majority of cases in the second or third week—the very time at which the skin and mucous membrane begin to lose the material deposited in them—we may conclude that in this fact we see an explanation of the method which nature takes to repair the injury inflicted upon the tissues by the disease."

The general opinion is, that albuminuria after scarlatina is produced by the application of cold to the surface of the body whilst the functions of the skin are enfeebled by the fever. But Dr. Fenwick considers this to be contradicted by the fact, that in many of the worst cases of albuminuria the rash had been scarcely observed, and that, consequently, the skin had been but little affected. It is, besides, generally remarked that the kidney is seldom implicated in cases of malignant scarlatina. In one instance of such form of the disease which Dr. Fenwick had the opportunity of making the observation, he found that although the

blood remained so fluid that the skin, and even the cartilages of the trachea, were deeply stained with it, he could find no anatomical alterations either in the glands of the skin or in the tubes of the stomach, excepting the dark red colour of these structures:—

"This is the only case of scarlatina in which I have failed to discover structural changes in the skin and digestive canal; and if further observation should show that this is usual in the malignant form of the disease, it will serve to explain how it is so rare to find in it the subsequent affection of the kidneys.

"I have entered upon this point at some length, because it is one of practical importance, and not of merely theoretical interest. It is above all things necessary that we should in the treatment of disease distinguish between our friends and our foes; between those phenomena that tend to restore the structures of the body to their normal condition and those that only produce disorganization of the tissues. To the former I believe we must refer albuminuria after scarlatina; and the small amount of mortality that accompanies this condition, the comparative rarity with which serious kidney disease follows it, and the limited period during which it is liable to occur, all tend to favour the opinion I have advanced."

So much space having been devoted to the first few chapters of this work, little is left for the remaining portions.

The conditions of the stomach in diseases of the heart and liver are fully considered; also, the probable connexion between diabetes and a diseased state of the pancreas, and in support of this view a number of cases are quoted from various authors of the co-existence of some form of disease of that gland with diabetes:—

"We find that in this complaint the quantity of sugar chiefly depends on the amount of starch taken as food. We might, therefore, reasonably expect to discover the cause of the disease in the organs whose office it is to convert the starch into sugar. The saliva, the intestinal juice, and the pancreatic fluid, all seem to possess this property, and it may at first sight appear absurd to suppose that an increase in the quantity of sugar should arise from a diminution in the secretion of any of the glands concerned in the process. But I conceive this apparent paradox is susceptible of solution. We must remember that nature never confers upon different structures precisely the same duty. When various organs seem to perform the same office, it is by supplying by their union properties not possessed by any of them alone. Now, as in the digestion of starch it is requisite that the sugar should be of such a nature as to permit of its subsequent changes, may we not conjecture that the office of the

pancreas is to finish the process commenced by the other glands, and that a diminution or alteration in its secretion may allow of the absorption of a material of a character unfitted for that decomposition in the circulation which it appears normally to undergo? . . . . . .

"It seems to me highly improbable, from the preceding observations, that the disease of the pancreas is a mere accidental accompaniment of diabetes; but, at the same time, we must not expect that it will be found in all cases to be the cause of the disease."

Renal dyspepsia and gastritis, the condition of the stomach and duodenum in phthisis, tuberculous dyspepsia, dyspeptic phthisis, the nature of tubercle illustrated by observations in man and the lower animals, and its points of resemblance and dissimilarity in some important respects with the poisons of fever and syphilis, are all treated in a manner which merits, and will reward, the attention of the reader:—

"Tubercle, however, seems to differ from the poison of fevers in the difficulty or impossibility of its elimination through the emunctories of the body. Each breaking up of its structure, and consequent resorption, leads to a fresh series of deposits in other and more distant organs, and thus the case is often hurried to a fatal termination. As regards the difficulty of its elimination it resembles syphilis; for in this complaint the irritant matter is successively deposited in different structures, exciting in them what are termed the primary, secondary, and tertiary forms of the disease. This similarity gives us some slight grounds for hope that, with the advance of science, substances may be discovered which will act—as mercury and iodine seem to do in syphilis—in rendering the elements of tubercle capable of elimination by the excreting organs of the body."

The chapter on weak digestion contains many highly valuable suggestions and remarks on treatment generally, but especially as regards diet:—

"Thus, connective tissue is more slowly dissolved than muscular fibre, and therefore the flesh of beef, which contains more of it than that of mutton, is digested with greater difficulty. For the same reason, fowls and game may be often taken with advantage, where the firmer fibre of beef and mutton would produce indigestion. Those parts of the animal which contain the smallest amount of fibrous tissue, such as tripe, the loin of the sheep, or the breast of birds, are most readily digested. Certain methods of cooking, such as roasting and broiling, are useful, in rendering the muscular fibre more easily separable; whilst boiling, by removing the more soluble parts, leaves only those constituents which

longer resist the action of the stomach. Some kinds of food, such as pork, salmon, and herring, are apt to disagree, on account of the quantity of oily matter they contain."

The connexion between affections of the brain and digestive organs is a subject on the nature of which no one engaged in the practice of medicine can have been without serious cause for speculation and anxious searching after truth. Dr. Fenwick's description of nervous dyspepsia is most graphic and truthful:—

"The most characteristic symptom is great mental distress. This is generally mentioned as a sense of despair; in many cases it is accompanied by a dread of impending insanity. It almost always seems to be occasioned by the disorder of the digestive functions."

We have frequently been strongly impressed by the painful descriptions given by dyspeptic patients of their mental state, particularly by those who had been debilitated by residence in tropical climates. One lady, naturally gay and cheerful, described to us, with tears in her eyes, that it was as if she was surrounded by the "blackness of darkness." The anomalous sensations of patients so afflicted, which they attempt to describe with a minuteness, the self-conscious inadequacy of which, to convey anything like a real idea of their sufferings, only adds to their distress, are well enumerated by Dr. Fenwick; and the treatment which he advises of thorough mental relaxation, change of scene and climate, attention to diet, etc., etc., is highly judicious.

The remarks on the morbid changes in the stomach and intestinal villi of persons who have died of cancer of other organs, are highly interesting, and open out a new and important field of inquiry. Dr. Fenwick details results obtained from the microscopic examination of the stomach in fifty-seven, and of the intestines in twenty-three cases of cancer. Wasting of the mucous membrane, enlargement of the solitary glands, and their distension with cells and nuclei, which displaced the gastric tubes, and sometimes even the muscular fibres, the firm adhesion among the tubes, which, however, still contained normal gastric cells, were observed in the earlier stages:—

"Later, the solitary glands appeared empty in the centre, but surrounded by thick layers of nuclei; the tubes could no longer be traced in their whole extent, but could be recognized only as bulbs filled with fatty cells, or as lines of cells, whilst the whole tissue was obscured by fatty and granular matter. In the last stages the solitary glands had

disappeared, and the tubes were replaced by fibres, the replacement of glandular structure by fibre being the ultimate metamorphosis."

In other cases:—

"Although no nuclear deposit was present the structure of the stomach was seriously injured by an increased formation of fibrous tissue."

"In only three out of twenty-four cases of cancer of the uterus was there any serious change in the mucous membrane of the stomach similar to that described as so often occurring when the disease had affected the breast."

In general in such cases the changes in the gastric mucous membrane partook more of the nature of fatty degeneration; the tubes were soft, and could be easily separated from each other:—

"But the basement membrane was exceedingly thin; they contained gastric cells, more transparent than usual, breaking down into granular matter with very slight pressure. The mucous membrane was but little diminished in bulk."

From his numerous observations on this subject, Dr. Fenwick deduces the following hypothesis into the consideration of which we have now neither time nor space to enter more fully than to state our appreciation of its highly interesting and exceedingly ingenious nature, and our belief that it is one in which Dr. Fenwick has struck upon a new vein for further investigation:—

"As the changes in the stomach are most frequent in cancer of the breast, the organ in which scirrhus is most common, and least frequent in cancer of those organs which are especially liable to the attacks of the softer varieties of the disease, it is, I think, probable that the alterations in the gastric tubes will be found to co-exist only with the harder forms of malignant growth."

The book closes with an appendix containing a statistical inquiry into the causes of dyspepsia, which is interesting to a certain extent; but its various conclusions being drawn from the observations of a limited number of cases, can only rank as contributions towards a common fund of information on such points, if other observers were to take up the same subject, and can hardly be looked upon as statistical facts.

Dr. Fenwick's observations as to the various structural alterations which he describes are illustrated by well executed lithographic plates, drawn by Mr. Tuffen West, from original specimens, with the camera lucida.

Altogether, we can with confidence recommend the book to our readers, as well to those who may be in a position to corroborate or confute Dr. Fenwick's observations by their own, as to those who devote themselves more to strictly practical studies.

Photographs of Eminent Medical Men of all Countries, with Brief Analytical Notices of their Works. Edited by Wm. Tindal Robertson, M.D., M.R.C.P., Phys. to Genl. Hosp., Nottingham. The Photographs by Edwards and Bult. London: Churchill. Vol. II., No. 8. Small 4to. Pp. 21.

In November, 1865, we noticed in favourable terms the early numbers of this work. We are now glad to see it progressing, and we must regard its having progressed, notwithstanding the death of its early projector, as a proof that it has supplied a public want, and that it has been fortunate enough to meet with a new editor capable of conducting it with the care, taste, and discretion that characterized it in the first instance.

The present number contains photographs of Dr. T. K. Chambers, of Dr. Druitt, and, what will make it most interesting to the readers of this journal, of Dr. W. D. Moore, whose name has been familiar to them for very many years as the author of translations and original communications of very great value contributed to our pages. It will be seen by the analytical notice of his works, however, that ours is not the only journal enriched by the pen of Dr. Moore, nor has he confined himself to writing for journals; he has translated several entire works for the Sydenham Society, and thereby added not a little to its eminence, and in many of the medical works of the highest character published of late years in Dublin, he is referred to as having assisted the authors in their production. One cannot help being amazed at the amount of work shown in this memoir to have been accomplished by Dr. Moore, and surely the contemplation of such industry and perseverance must have a beneficial effect.

The photographs are admirably executed; the two volumes now complete are really very beautiful books, and we strongly recommend our readers to avail themselves of the opportunity for obtaining these life-like portraits. The series already contains many of our English friends, with whose names and writings we are all familiar, and we hope many more Irishmen will soon be added to it.

1. *St George's Hospital Reports.* Edited by J. W. Ogle, M.D., F.R.C.P., and Timothy Holmes, F.R.C.S. Vol. II. 1867. London: Churchill and Sons. 8vo, pp. 486.

2. *Catalogue of the Pathological Museum of St. George's Hospital.* Edited by J. W. Ogle, M.D., F.R.C.P., and Timothy Holmes, F.R.C.S. 8vo, pp. 886.

In a recent number we received Hospital Reports from several of the great hospitals of London. We have now to introduce to our readers a report from another of these hospitals, one whose teaching must ever be looked up to if it were only because of the great men whose names are identified with its history. We have also before us a catalogue of the pathological museum, which is in itself a volume of great value and importance. Generally speaking, catalogues of museums are of little use, except within the walls of the museum itself. In this one, however, the histories of the preparations are given with so much accuracy that they almost amount to clinical records of the cases with which the reader is invited to compare the pathological specimens. Moreover, where it was thought desirable, and it has been possible to do so, the result of a microscopical examination of the specimens has also been given. The result is that this so-called "catalogue" is a compendium of pathology whose value cannot be over-estimated, and well worthy of the reputation of the hospital from which it has come. Our space, however, will only admit of our noticing the papers in the Hospital Report in detail.

I. *Contributions to the Surgery of the Head. On Exostoses of the Skull.* By Prescott G. Hewett.

In the first volume Mr. Hewett communicated a paper on the deviations of the base of the skull occurring in chronic hydrocephalus, in which he portrayed some very remarkable deformities resulting from this disease. In the present contributions to the surgery of the head he discusses exostoses of the skull. He passes in rapid review the history of these growths, but without going minutely into their pathology; and as to their treatment, he states that so far as the exostosis is concerned medical treatment can be of no use, though if there be inflammation of the surrounding osseous tissue proper treatment for this will be most serviceable.

Operative interference, he says, should not be attempted, unless the increasing size or the peculiarity of the position of the growth make it imperative.

II. *Clinical Cases of Insanity.*

This is a paper by Dr. G. F. Blandford, Lecturer on Psychological Medicine at the school. The cases are of two classes, and are meant to illustrate the curability of insanity. In the first class we have three cases of melancholia of seven, six, and five years' duration respectively, in which recovery took place, showing how cautious we should be in forming an unfavourable prognosis, even where such long periods have elapsed. In the first case the patient was obliged to act in some things for himself, and so the quiet monotony of asylum life was broken up, and he soon came to enjoy life most thoroughly and keenly. The case leads Dr. Blandford to make the following remarks, in which we fully concur:—

"Insanity may be described, if not defined, as a want of harmony between the mind of the individual and his external surroundings. As life is 'the continuous adjustment of internal relations to external relations,' so any cessation in this process of adjustment causes disorder mental or bodily. If the relations are themselves altered—if a man loses his fortune or his friends, he must come into harmony with his new set of circumstances, or he perforce is thrown out of equilibrium, and 'loses his head.' If his brain becomes so disordered that he fancies his circumstances are all changed, the same thing happens; and when he attempts to right himself by force, or to rid himself of the entire burden, he is shut up for safety and for cure. Now our object, of course, is to bring a patient back to his former condition—to restore the harmony which existed, and which ought to exist, between him and the world in general. This we must, above all, try to accomplish. There is such a thing, however, as bringing a patient into harmony, not with his former life, but with asylum-life; and this is what happens not unfrequently, and happened in the case of this gentleman. In the asylum he had everything that he wished for. Self-indulgent by the nature of his malady and by constitution, fond of being alone with his books and papers, indulged and kindly treated—for no one could be harsh towards the gentlest of men—he might have gone on to the end of his days, enjoying the lazy luxury of his mild melancholy, had not the harmony of his new life been in turn broken up and marred."

In the second class, we have cases of transitory mania. There are two forms of transitory mania—1st. The epileptic, which M.

Marcé says is the more common, but Dr. Blandford thinks this very doubtful. In the non-epileptic form there may be all the usual violence, delirium, and delusions, running a rapid course, and terminating in recovery in a week or two; and it is very important that a correct opinion should be formed as to the nature of the case, but the diagnosis is admittedly difficult. In the following paragraph Dr. Blandford sums up pretty nearly all that can be said on the subject:—

"How are we to tell whether the attack will be transient or not? To decide this at a glance is not easy; but it is to be remembered that two or three days will solve the question for us. The symptoms both of transient and protracted mania vary so much in different individuals, that it is difficult to lay down strict rules of diagnosis. It is likely, however, to be transient, if its invasion is very sudden, and if there is a definite and sufficient mental cause, as a shock or fright. It is likely to be prolonged, if its approach has been very insidious, and if there is no assignable cause. If the bodily condition is much affected; if the tongue is brown and dry, the urine scanty and high-coloured; and if the bowels can hardly be moved by the strongest purgatives—it is not likely to pass off in a few days. If, on the other hand, the bowels are easily and freely opened, if the urine is copious and pale, and the tongue pale and moist—we may hope that it will be soon over, especially if there is extreme violence, bearing no proportion to this slight bodily disturbance. And our decision will be aided by the advent of sleep if this occurs in a day or two. If the disorder is to run the ordinary course of acute mania, sound and long sleep is not to be expected at so early a period. If former attacks have occurred, our diagnosis will be materially assisted by the history of them."

III. *Diseases of Artizans.*

Dr. J. C. Hall, of Sheffield, but a former pupil of St. George's Hospital, proposes to give a series of papers on this subject. In this, the first of them, he describes "The Sheffield File-cutters' Disease." An account is first given of the process of file manufacture, from which it appears the workers are greatly exposed to lead dust; and the "File-cutters' Disease" is really lead-poisoning. Some remarkable cases are given, among others showing that the blue line on the gums may last eighteen or twenty years after all exposure to lead shall have ceased.

IV. *On Certain Epileptic Phenomena.* By Edward Fox, M.D.

Dr. Fox regards the division of epileptiform attacks into centric

and eccentric as a fallacy, although convenient in our present state of ignorance; but, unlike many recent writers, he seems to regard eccentric causes as most important. He believes, however, the attacks often recur, though the eccentric cause, such as a worm, or undigested meal, may have been removed. It may be, he says, that the first starting-point of every epileptic attack is some eccentric impression, though this cannot be recognized by an observer, or even by the patient himself, and it is so difficult to prove the existence of these eccentric impressions that practically a very large number of epileptic attacks fall under the head of centric, where the true explanation lies rather in the inadequacy of our powers of observation, or our means for their recognition.

The aura is not, as Dr. Fox says, a necessary phenomenon of eccentric epilepsy. In 112 cases noted, it was only present in 10; yet many patients gave an account of some sensation that warns them of the approach of a fit. This warning differs from an aura, and seems often to be the commencement of the fit before the loss of consciousness occurs. It takes various forms, according to the portion of the nervous system first attacked by the arterial spasm. Dr. Fox believes that in the fully developed attack the nervous centres that rule motion may be affected by the arterial spasm, whilst the external convolutions remain free; and, in some cases, the latter may be affected, while the centres of motion are unaffected, and thus there may be convulsions without loss of consciousness, and loss of consciousness without convulsions. To us this appears a mixing up of two different affections. How often do we see a child have convulsions from teething or some local irritation, and yet we do not call such cases epileptic. We prefer, with Todd, to look on loss of consciousness as the essential part of epilepsy; and we would not at all consider such a case as the following one of epilepsy, and we suspect there was more loss of consciousness in the other cases recorded under this head than the patients were aware of:—

"E. P., aged sixty-one, a widow. Every day, and many times a day, for six months before I saw her, she suffered from a severe convulsive condition. She never loses consciousness in the least, and does not even feel confused; but has most violent clonic convulsions of the mouth, jaws, eyelids, and all the facial muscles. The head is shaken from side to side with intense rapidity; the arms and hands are in a similar state of clonic convulsion. The legs are not always affected; and when they are not, she is able to stand through the whole of the attack. In all

respects the convulsions of this case closely simulate epilepsy. She has no tonic spasm; no subsequent headache or drowsiness; no loss of memory, or of any mental faculty; no paralysis. She has never had any other kind of fit. The only effect of these attacks is the fatigue consequent on the violence of the convulsion. I have several times witnessed these attacks, and am certain that the mind is wholly unaffected throughout. It may be well to state that under bromide of potassium the convulsions have diminished in frequency and intensity, and for some months past have scarcely troubled her at all whilst she has persisted in the remedy. They recur as before whenever she attempts to leave it off."

While Dr. Fox regards the theory of arterial spasm as a great gain in explanation of the phenomena of epilepsy, he looks on the blood as the real seat of the disease, though it may not be easy to recognize the precise lesion in the fluid, and this lesion may vary in different individuals.

Notwithstanding Brown-Séquard's experiments, in which clonic convulsions were caused by injecting venous blood into the system, Dr. Fox believes that want of arterial blood in the brain and spinal cord is the true cause of the clonic convulsions, and their cessation, he argues, is the result of a restored supply of blood rather than of exhaustion of the nervous powers.

In the treatment, Dr. Fox has little faith in anti-spasmodics, or preparations of zinc. His first object is (by hygienic means, food, and good habits) to improve the state of the blood itself; and secondly, to try to modify the impressibility of the arteries themselves, or of their nerves. For this latter purpose he speaks favourably of belladonna and the bromide of potassium. He has notes, more or less complete, of fifty-two cases, in which bromide of potassium, in at least 20-grain doses, was found satisfactory. In many cases it was combined with cod-liver oil, but he has notes of ten cases in which it failed, in one of which belladonna was more successful, though it generally disappointed him. In some cases the long-continued use of quinine was useful, even though there was no history of malaria. In several cases steel and strychnia proved very beneficial, whilst in three others the use of phosphoric acid and phosphate of iron were attended with good results, when other means had failed to give relief.

V. *Encephaloid Disease of a Retained Testicle, with Remarks, including a Summary of Twelve other Similar Cases.*

After detailing these cases, Mr. Hodgson, the author of this

paper, considers the question of operation, and declares himself in favour of an early operation as offering at least some prospect of permanent cure.

VI. *Thermometrical Observations in Typhoid Fever.*

In this paper Dr. Reginald E. Thompson sums up observations made during three years on forty-seven cases of typhoid or enteric fever, and, in concluding, formulates them as follows:—

"1. The thermometer points out a distinction between typhoid fever and some other diseases which often simulate it, viz., acute granular kidney, meningitis, peritonitis.

"2. The thermograph of typhoid differs from that of other fevers, and especially in the mode of favourable termination.

"3. An additional distinction between typhoid and typhus fever is thus given.

"4. It is possible by its use to appreciate intestinal lesions before they are recognized by the ordinary symptoms."

VII. *Aphasia and Agraphia.*

This paper is by Dr. W. Ogle, Lecturer on Physiology at the Medical School. It opens with a history of the question from Gall's locating of the faculty of speech in the anterior lobes of the brain which lie above the orbital plates, and Bouillaud's discovery, in 1825, that loss of speech and of the memory of words is an inevitable consequence of a disorganization of the anterior parts of the cerebrum, to the further discovery made by M. Dax, of Montpellier, in 1836, that the faculty that Gall and Bouillaud had lodged indifferently in either anterior lobe, was in reality located only in the left. Dr. Ogle shows further that this statement was repeated by the son of M. Dax, who added the observation that the faculty was located in that portion of the left lobe that borders on the fissure of Silvius. The whole subject was neglected till 1861, when, in consequence of a discussion at the Anthropological Society, M. Broca was led to examine the cases that presented themselves to him, and confirmed the statements of M.M. Dax with the further precision of fixing the faculty of speeeh in the posterior third of the inferior frontal convolution.

After the very full and exhaustive essays on aphasia, recently published in this Journal by Dr. Banks, in February, 1865, and by Dr. Popham, in August, 1867, it is not necessary to go further into Dr. Ogle's paper. He recounts twenty-five cases, five of

which he had seen himself, in one of which he had made a *post mortem* examination. The remaining twenty cases are collected from the books of the hospital, where they had been recorded by gentlemen not conversant with Broca's theory, and, therefore, they leave some details unnoticed. We subjoin Dr. Ogle's deductions from the entire series:—

"*General Result of the Cases.*—We have, then, twenty-five cases in which speech was lost or much impaired, and in all of them there was disease of the left hemisphere. This was shown either by *post mortem* examination, or by sure symptoms during life. In some few there was, it is true, disease on both sides of the brain, but in the large majority the lesion was confined to the left. There is not one single case in our registers in which speech was seriously impaired and the left side of the brain found sound. These cases, even by themselves, would be strong evidence of the correctness of Dax's statement; but when taken in conjunction with the results of other observers, they furnish the most irresistible proof that, in some way or other, the left hemisphere is more intimately connected with the faculty of language than is the right. Thus, in thirty-one cases of aphasia collected by Mangan at the Bicêtre and Salpetrière, there was without exception paralysis on the right side. M. Trousseau, himself an opponent of Dax and Broca, collected in 1865 all the cases of aphasia he could find. In 125 of these cases there was palsy on the right side, in ten only on the left.

"It has been, however, objected that disease of the left hemisphere is very much more common than disease of the right, and that therefore it is only natural that there should be more cases of aphasia associated with the former than with the latter lesion; in fact, that disease of either side will equally produce aphasia, and of that side more frequently which is itself more frequently diseased. This objection would be a sound one, were disease of the left hemisphere more usual than that of the right in any such proportion as 125 to 10. But this is far from being the case. It would indeed appear, from such statistics as I can find, that the left side of the brain is really more frequently the seat of disease than is the opposite one, but only in a very small proportion. In 74 cases of hemiplegia which I collected at St. George's, the right side of the body was paralysed 43 times, the left 32. Andral gives 73 cases of right hemiplegia against 63 of left; Baillarger (at the Salpetrière) 58 cases of right palsy, 52 of left. Putting these figures together, we have 174 cases in which the right side was paralysed against 147 in which the opposite side was affected. It is quite plain that this slight difference is utterly inadequate to account for the statistics of aphasia given above.

"Admitting, then, Dax's statement to be correct, what is to be said as

to the exceptions to his law? How are they to be explained? In the first place, I would remark that they are excessively few. M. Trousseau, with every wish to produce evidence against Dax's and Broca's theory, could only collect ten such. In seven of these ten there was no *post mortem* examination. There was paralysis of the left side, and it was inferred that the right side of the brain was diseased, and that the opposite side was sound. But to this it was objected with much truth, that disease of one hemisphere does not in any way imply soundness of the other. There may in these cases have been a lesion on the right causing left hemiplegia, and a lesion on the left in Broca's region causing loss of speech, but no paralysis. This lesion may have been limited to the grey matter of the surface; and there are several cases in this paper which show that there may then be loss of speech but no paralysis (conf. cases xvi., xvii.) How careful one must be in estimating these apparently exceptional cases, if there be no autopsy to guide us, is shown by case xv. Had there been no examination of the brain in that case, it might have been quoted as contradicting Dax; for the left arm was affected, not the right. But, on *post mortem* examination, it was found that there was obstruction in the vessels of both hemispheres. Secondly, it must be remembered that there are some few cases on record—so few, indeed, as to make this explanation a very improbable one—where disease of the left hemisphere has been accompanied by hemiplegia on the same side, and not by crossed paralysis, as in the vast majority of cases. A third, and much more probable explanation of these apparent exceptions, is one which, to the best of my belief, has not yet been advanced. The loss of speech may have depended on disease of the pons Varolii, and I have already stated that in such cases the lesion may be either on the right or on the left, and have mentioned what I believe to be the explanation of this, viz., the decussation of the nerve-fibres in passing through the pons (conf. note, p. 101). Lastly, in those very rare cases in which the autopsy has revealed a sound left hemisphere and a diseased right one, we must content ourselves for the present with the explanation already given in a preceding page (p. 88).

"The left hemisphere, then, being specially concerned in speech, the next question is, are all parts of it equally so, or is this faculty located in some limited portion of it, as Broca would have us believe? It would be easy to bring forward abundant cases from our records showing that most extensive lesions may occur in the left hemisphere, and even in its anterior lobe, without the slightest impairment of speech. I will, however, only give one striking example of this.

"'Frederic F. died in St. George's Hospital, February 15, 1867. His speech had been perfectly good up to the day of his death. The autopsy showed the following lesions in the head. There was a scalp-wound on the left frontal eminence. The bone here was fractured slightly, without any depression. There was pus between

the bone and dura mater. This latter was thickened and perforated, and there was a circumscribed abscess in the left anterior lobe, extending from the extreme front to the corpus striatum, and downward to the orbital plate. In front it came within half an inch of the external surface. The brain-substance round about was yellow, softened, with numerous red puncta. The corpus striatum and optic thalamus on the left side were softened, and the corpus striatum in great part broken down. There was much fluid in the ventricles, and softened fornix. Broca's region was carefully examined, as also the corresponding part of the right hemisphere, and was perfectly sound.'

"It would appear, then, that all parts of the left hemisphere are not concerned in the matter, nor all parts of the anterior lobe. What part, then, is? The eight cases of embolism of the left middle cerebral artery show that it is some part supplied with nutriment from that source. The rest of the cases harmonize with this conclusion. Such a part, with much besides, is the posterior part of the third frontal convolution; so that our hospital records are compatible with Broca's opinion. The accounts of the *post mortem* examination in the cases I have recorded, made by gentlemen who at the time were not conversant with Broca's theory, and who have therefore not taken pains to distinguish with precision the separate convolutions, do not allow us to go much farther than this. Still, cases v., vi., xvi., xvii., in which Broca's region was, if not exclusively, yet specially the seat of lesion, lend great probability to the accuracy of his conclusion. At any rate, these cases would seem to show that the organs of language are, if not in the exact position which he has assigned to them, in close proximity to it. Cases of aphasia are, however, by no means uncommon; and it can hardly be doubted that, when so many observers have their attention turned to the subject, pathological observation will soon give a certain answer to the question."

VII. *Reports of Cases of Nervous Disease—Delirium.*

This paper, by Dr. C. Handfield Jones, is founded on eight cases, in which delirium was the prominent symptom. Each is worthy of study. We must, however, refer our readers to the cases themselves, and, we apprehend, they will find free scope for differences of opinion as to their true nature, and the conclusions to be drawn from them.

IX. *On Loose Cartilages in the Knee-Joint.*

Mr. Brodhurst briefly records a case in this paper in which the internal semi-lunar cartilage had been displaced, and a portion of it broken off. He regards this as a frequent cause of loose cartilages in the knee-joint, though it is not mentioned in surgical writings.

X. *Infecting and Non-Infecting Chancres.*

This paper by Mr. Venning has especial reference to the means

of diagnosis between the two forms of chancre. The author states that during a period of four years there had been admitted into the hospital of the 1st Life Guards forty-nine cases of venereal disease. Of these nineteen were diagnosed and treated as infecting chancres, and thirty as non-infecting. He had inspected nearly all these latter lately, and only two presented any trace of secondary disease. One of these seems to have had both forms of chancre, the other had a suppurating chancre, and the glands of the groin did not at first assume what the author thinks the only really characteristic feature of the infecting disease, viz., amygdaloid enlargement. He thinks induration may exist without the sore being an infecting one, but he does not remember any case in which this condition of the glands did not exist.

XI. *On Naso-Pharyngeal Polypi.* By Thos. P. Pick, Curator of the Pathological Museum.

Mr. Pick's paper treats of tumours of a fibrous character growing generally from the basilar process of the occipital bone and body of the sphenoid, where they form the roof of the pharynx. They are continuous outgrowths from the thickened periosteum, and belong to the category of fibrous tumours, called by Cruveilhier *corps fibreux implantés.* Although generally growing from the base of the skull, they sometimes arise from the fibrous tissue in front of the bodies of the cervical vertebræ, and project into the nasal fossæ.

Mr. Pick quotes Nélaton as saying, "Individuals never live long with growths of this kind;" and he says there is always a prospect of speedy death either from hemorrhage or the impediment they offer to respiration or deglutition. They are not confined to the nose, but may make their way into the orbit, pterygoid fossa, and other cavities about the face. Sometimes these growths slough off, and thus a spontaneous cure is affected, but in general it is necessary to remove them by operation. Nélaton proposes to remove them through the mouth. Others remove the superior maxilla, or raise and replace it after excising the tumours, and some merely remove the nasal bones. Mr. Pick, in his very excellent paper, discusses the merits of these several methods, as well as of the ligature, torsion-forceps, and galvanic cautery, but for the details we must refer to the paper itself.

XII. *On Croup and Diphtheria.* By J. W. Haward.

The author argues that these are distinct diseases, and shows

good reasons for his belief. He advocates the early performance of tracheotomy, when the breathing becomes laborious, and he thinks it should be done even more early in diphtheria than in croup.

XIII. *The Significance of Skin Affections in the Classification of Disease.* By T. C. Allbutt, M.D.

Dr. Allbutt urges the necessity for a classification of diseases on a "natural" system, and indicates here some of the principles on which it should be formed.

XV. *Cases of Fever, with Remarks on their Origin.* By W. E. C. Nourse.

The conclusions arrived at as to the causes of fever are as follows:—

1st. Blood-poisoning by malaria does not make fever by itself, for we often see it without any fever following; but it is malarious blood-poisoning, coincident with depression and faulty elimination, that originates fever of the typhus group.

2nd. Typhoid fevers appear to originate in—1st, Some personal debility, but not that of starvation; 2nd, blood-poisoning by malaria; 3rd, something injurious conveyed (often in water) into the intestinal mucous tract.

XV. *The Forms of Pneumonia.* By Octavius Sturges, M.D.

In framing the statistical table of the Medical Registrar's Report for 1865, Dr. Sturges was struck by the very slender bonds which held together, under a common name, affections of the most various kinds. This he found to apply especially to pneumonia, and he was led to try, by bringing together a large number of such cases, whether he could effect some natural arrangement of the whole into groups, each of which should comprise instances of disease more or less obviously allied to one another.

In this paper Dr. Sturges has tabulated all the cases of pneumonia in the records of the hospital, and shown how pathological conditions sufficiently similar to warrant the application of a common name to the series are associated with every variety of clinical phenomena. He has arranged the cases into six classes:—

I. Cases of hepatisation occurring in the course of lingering diseases, and ascribed to low or latent pneumonia.

II. Cases of hepatisation the result of blood-poisoning.

III. Hepatisation from obstruction.

IV. Simple pneumonia.

V. Hepatisation where death was ascribed wholly or mainly to low or latent pneumonia.

VI. Exceptional cases mostly resembling Class IV.

XVI. *On a Case of Death from Hemorrhage into the Pericardium, as a Result of Rupture of One of Three True and Circumscribed Aneurysms of the Coronary Artery of the Heart; with Observations on Aneurysm or Aneurysmal Dilatation as a Result of Embolism or Thrombosis.* By J. W. Ogle, M.D.

In the opening of this paper, Dr. Ogle refers to Mr. Tufnell's remarks (published in this Journal, May, 1853) on the formation of aneurysm from the detachment of "cauliflower excrescences," but when Dr. Ogle had his attention first directed to the subject he was not aware that Mr. Tufnell had preceded him. In addition to his own very interesting case Dr. Ogle gives an abstract of all the cases he has found recorded of aneurysm of the coronary arteries.

XVII. *Statistics of Strangulated Hernia. Some Facts in reference to Strangulated Hernia, founded on a Record of* 200 *Cases in the Book kept at St. George's Hospital.*

In this paper Mr. Holmes gives a very full analysis of the records of the hospital in reference to operations for hernia. In the previous volume he gave a similar report on amputations. We can only note a few of the leading facts. The paper should be most carefully studied.

The 200 cases included all the three common varieties of hernia femoral, inguinal, umbilical. The deaths in the whole were seventy, or rather more than one-third. In sixty-eight cases the hernia was inguinal, and four of the patients were females. Four of the operations were performed in infancy (under seven months), in one of which the hernia did not appear to be of the congenital form. Of the sixty-eight inguinal cases nineteen died, not much more than one-fourth, while of 126 femoral cases 47 died, more than one-third.

Of the 68 inguinal cases 30 were operated on within twelve hours, of whom 7 died, but of these 3 had received irreparable injury to the gut in the forcible attempts at taxis before the operation. In one case an artery in the mesentary had been wounded in the operation, and 3 died of peritonitis, in one of

whom the gut bore marks of the bruising it had got in the previous attempts to reduce it.

In the latter half of the first day of strangulation there were 13 cases operated on, with 4 deaths—1 from fatty heart, 1 from diffuse inflammation of scrotum, and 2 from peritonitis.

Of the remaining 25 cases, 9 were operated on in the second day, 6 on the third, 7 on fourth, 1 on fifth, and 1 on sixth; the date of the other has not been recorded. Of the 25 cases 8 died, of whom 2 were in a moribund state before the operation. Thus, Mr. Holmes says, our experience shows there is less risk in early operation than in any less decisive measures, and that if cases were gently handled in the efforts at taxis, and operated on early, when such gentle efforts failed, few of them would die.

Of umbilical hernia only 6 cases were operated on in the whole 13 years, and of these 4 proved fatal. Mr. Holmes attributes this high mortality to the advanced age of the patients, the probable affection of the viscera, the large quantity of omentum to be cut through or removed, and the unfavourable position of the opening for the escape of discharges.

Of the femoral hernia 126 cases were operated on, of whom 19 were males, and 107 females; 11 of the males died, but 3 from other causes; but even excluding these, the deaths and recoveries were equal, 8 of each.

The usual sex of the patient, and the smallness of the tumour, cause femoral hernia to be allowed to remain longer than inguinal after strangulation before operation; but when operated on early death is the rare exception. In 15 cases the strangulation had lasted less than twenty-four hours, of whom 1 died; 30 lasted one to two days, of whom 8 died; 20 lasted two days, and 11 died; 18 three days, and 8 died; 11 four days, and 5 died; 5 lasted five days, and 3 died; 5 were six days, and 2 died; 3 were seven days, and 2 died; 4 eight days, and 3 died; 2 were ten days, both of whom died. The duration was uncertain in 4 cases, 2 of whom died.

As to the contents, in 3 cases the sac was not opened; in 1 there is no note of the contents, and in 2 the sac was empty. Of the remaining 120 cases 7 were epiploceles, of whom 2 died; 70 were enteroceles, the intestine being gangrenous in 6, of whom 3 recovered, but with artificial anus. In 5 the intestine was ulcerated, and 4 died; in 17 it was inflamed, but only 5 died; and the intestine was in an unhealthy state in many others; but of the 70 enteroceles, only 23 died; and of 43 entero-epiploceles, 21 died.

Mr. Holmes believes the mortality of the hospital after herniotomy is below that of most others, and he attributes this to the fact, that if the strangulation will not yield to moderate taxis under chloroform, the operation is at once performed; and he states that, after operation, no purgatives are given, except on clear indications, no matter how long the constipation may have lasted.

XVIII. *Two Cases of Strangulated Inguinal Hernia, with Remarks.*

In this paper, also by Mr. Holmes, 3 cases of great interest are recorded. In the first the gut, which was irreducible, was injured by too protracted taxis. It gave way at the operation. The rent was sewn up, the bowel returned into the peritoneal cavity, and the patient recovered. In the second the bowel, though quite reducible, was allowed to remain unreduced three days; peritonitis was set up, and notwithstanding the reduction of the hernia, the patient died. In remarking on these cases Mr. Holmes is led to criticise the views put forward by Mr. Hutchinson in Vol. ii. of "London Hospital Reports." Mr. Hutchinson believes the main cause of peritonitis in such cases is the returning into the peritoneum an inflamed bowel, from which inflammation radiates over the general serous surfaces. Mr. Hutchinson argues that where the intestine is inflamed it should be left in the sac after the stricture has been divided; but Mr. Holmes tries to show, and, we think, conclusively, that Mr. Hutchinson's facts do not justify his conclusions, and that the right practice is as taught by Aston Key, to reduce the gut into the belly in all conditions short of actual gangrene.

XIX. *Case of Convulsions occurring after Delivery, with some Remarks suggested thereby.*

This case is recorded by Dr. Mackay, but, though interesting, does not present anything to require observation at present.

XX. *Instances of some of the Rarer Varieties of Morbid Growths, Swellings, &c., connected with the Organs contained within the Abdominal Cavity.*

In this paper Dr. J. W. Ogle details 40 cases, with their histories, and the *post mortem* appearances, and a continuation of the paper is promised.

The volume closes with a report of the medical, and another of the surgical cases admitted into the hospital during the year 1866-67.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.[a]

Dr. Gordon, President.

Chronic Pleuritis with Effusion. Tuberculosis of the Lungs. Pulmonary Embolism and sudden death. By Dr. Hayden.—K. H., aged 24, clerk, pale, and of dark complexion, was admitted into the Mater Misericordiæ Hospital October 30th, 1867, suffering from dyspnea, and dry teazing cough. The finger-ends were clubbed; nares dilated; pulse quick; sleep broken; appetite bad. In the apex of the right lung the signs of cavity existed, and over the entire right front a loud friction-sound was audible, and fremitus was perceptible to the hand; the lower portion of this side was dull, and to the same extent respiration was not audible; nothing abnormal was discoverable on the left side. He stated that a few weeks previously he had been attacked with acute pain in the right side, having been suffering from cough when so attacked. Sedatives, with small doses of iodide of potasium, and counter irritation were employed; under this treatment the patient's condition had greatly improved, he had gained flesh, slept better for the last few days, and the friction sound had nearly ceased to be audible, and was replaced by natural but weak respiratory sound, when, on Saturday the 19th of November, he was informed that he might leave hospital on the following Monday. It would seem that, inspired with too much confidence by this announcement, he exposed himself incautiously in the corridor, and on the following day Dr. Hayden found him in bed; face flushed; respiration accelerated (36), and embarrassed; skin hot; pulse 132; he complained of pain in the right side, the lower half of which was comparatively dull, with respiration nearly inaudible. On November 21st the patient was attacked with diarrhea; pulse 150; face

[a] These reports are furnished by the Secretary to the Society.

congested, and respiration laboured. November 22.—Since last report there has been gradual improvement; pulse 108; respiration 24; dulness has diminished, and respiration is accompanied with a coarse crepitant râle. On the 28th there were signs of considerable effusion into the right pleura; the patient got out of bed and dressed; had a craving for food; and passed an indifferent night, constantly complaining of thirst. At 8 o'clock on the morning of the 29th, the Sister on duty brought him his breakfast, and on presenting it to him, observed that he struggled for breath and became livid in the face; she at once gave the alarm, and within a few minutes the patient was dead. *Autopsy.* The right pleura was remarkably thick, both in its parietal and visceral layer; on the lung it was several lines thick, and consisted of two layers readily distinguishable from one another, and manifestly the result of two distinct accessions of inflammation. The parietal pleura was attached to the anterior surface of the lung about two and a half inches below the apex, and thence upwards both layers were amalgamated and firmly attached to the lung, which, through them, adhered to the chest wall. The cone of the pleura thus pathologically formed, fell short of the apex of the lung by nearly three inches, and limited the ascent of the serous effusion, of which there were about two quarts, clear, and of an amber tint. The entire lung was compressed and solidified, with the exception of that portion which was adherent to the parietal pleura, viz., the superior portion, and this was extensively pervaded by tubercular deposition, and presented at the apex two small cavities about the size of the point of the finger. In the apex of the left lung were several 'nests' of minute grey tubercles, each surrounded by an areola of deeply congested lung substance, which contrasted strikingly with the surrounding surface of section; tubercular matter of a similar character was sparsely disseminated through the remaining portions of both lungs. The bronchial glands were solidified by deposition of cheesy tubercular matter. The heart was of normal size, somewhat fatty on the surface, and, examined microscopically, its tissue was found to be in an early stage of fatty transformation. Some partially decolorized fibrin was found in the right auricle, whence it extended into the right ventricle and into the pulmonary artery, in which there was a cylinder of yellow fibrin about one-eighth of an inch in diameter, bifurcated at the primary division of the vessel, and extending into the lungs through several sub-divisions; the lining membrane of the pulmonary artery was deeply injected, and of a pink-red colour; the valves and orifices of the heart were all normal. With reference to this case Dr. Hayden remarked that he felt some difficulty in determining the immediate cause of sudden death; it might have been failure of the heart, consequent upon the effort of the patient to sit up quickly in bed; of sudden death from this cause under similar circumstances—viz., where copious pleural effusion existed—he had

witnessed some examples, and such are familiar to all physicians of experience, and indicate the necessity for a guarded prognosis, and of great caution in regard to the movements of the patient in such cases. It may possibly have been in some degree connected with thrombosis of the pulmonary artery; but to the former view he was rather inclined, both by the history and actual condition of the patient, and the comparatively small size of the fibrinous cylinder found in the pulmonary artery.—*November* 14, 1867.

Trichinosis.—Dr. R. M'Donnell brought before the Society some specimens of muscle affected with trichinosis from a subject which had some days before been brought to the dissecting room of the Medical School at Dr. Steevens's Hospital. As such cases were comparatively rare in this country (this being the first case ever brought under the notice of this society), Dr. M'Donnell exhibited in microscopes on the table various preparations illustrative of the case.

The following was the meagre history of the patient which he had been able to make out:—

John Leahy, aged 44 years, had been admitted to the hospital of the South Dublin Union Workhouse, in June last. Previous to admission he stated that he had been reduced to a state of great debility and emaciation by an attack of low fever. He died ultimately of pulmonary phthisis.

The body was greatly wasted, and all the hair on the head, chest, and pubes had fallen off.

All the voluntary muscles of the body were filled with the minute white specks which microscopic examination showed to be the entozoon named by Professor Owen the trichina spiralis, in what is known as the encapsuled condition.

Dr. M'Donnell had calculated that in the biceps muscle alone there were about 6,900 of these minute worms.

About 35 years ago the attention of physicians had been first directed to small whitish bodies existing in the voluntary muscles. An English anatomist, Hilton (*Lond. Med. Gaz.:* 1833, p. 605), had first drawn attention to those bodies, but it was not until in 1835, when James Paget submitted them to Professor Owen for examination that their true character as an entozoon was discovered. Since then the life history of this minute worm has been worked out with extreme assiduity and success, for the most part by German observers. Zenker, of Dresden, has the merit of having first discovered the worm in the free state; this occurred in 1860, in a case of fatal trichinosis which he had an opportunity of examining. It appears that it is during this period, whilst they are free and not yet encapsuled in the muscles, that these creatures cause the symptoms recognized as trichinosis, which sometimes terminates

fatally. After they become encapsuled they may remain for years, causing little or no disturbance.

Dr. M'Donnell read the following curious history from Professor Virchow's pamphlet (*Die Lehre von den Trichinen*, Berlin, 1866, p. 49) :—

"In February, 1863, Langenbeck in Berlin was operating upon a swelling in the neck, when he observed that the muscles laid bare were full of calcined trichinæ. The man, upon being asked whether he ever had a peculiar attack of illness, related that in the year 1845 a commission was employed in Jessan for the inspection of schools; the eight members of it breakfasted together at a merchant's house; one left, having partaken of only a glass of red wine, the other seven drank white wine and eat what was provided. These last, one of whom was the relator, took ill, and four died. Suspicion fell upon the meal and the host. A legal investigation was held upon the white wine, which had no result; but the host felt obliged to emigrate, he remained such an object of suspicion."—*November* 30, 1867.

Hypertrophy and Fatty Degeneration of the Heart—Mitral Regurgitant Murmur without Valvular Disease.—Dr. Hayden said that the specimen laid before the Society would be considered to present the more interest, because the details of the case had been already, during the man's lifetime, published in the *Medical Press* of Nov. 13th ultimo. The man was aged sixty, a gunsmith by trade. He had never been intemperate, and never had had rheumatism. He was admitted to hospital on the 9th of last October. Up to six months previously he enjoyed uninterrupted good health. He then for the first time observed his respiration to become quickened on walking up stairs, and suffered from palpitation. About a month subsequently he observed swelling of the feet and legs. When admitted to hospital there was very considerable œdema of the feet, legs, and thighs, a rather remarkable superficial venous engorgement of the dorsal surfaces of the feet, and of the lower part of the legs, and a slight jaundiced tint of the face and conjunctivæ. There was considerable effusion into the peritoneum—the liver was enlarged considerably, and extended nearly to the umbilicus. The man's pulse was 96, irregular, and intermittent. He occasionally sighed, and respiration became quickened occasionally, even as he lay in bed. Over the pericardium there was decided dulness from the right margin of the sternum to an inch and a half external to the left nipple. In this latter situation a distinct bellows murmur was heard, replacing the first sound of the heart. It was audible in the left axilla, and likewise at the inferior angle of the left scapula. At the apex of the heart the second sound was obscure, but still audible. Over mid-sternum a systolic murmur was likewise audible, less pronounced than over the apex of the heart. Here a murmur was also heard in place of the second sound,

a distinct diastolic murmur. There was visible pulsation of the radial, and of the carotid, but not of the temporal arteries. Urine passed in moderate quantity; of specific gravity 1015, acid, and with only a trace of albumen.

Up to the 19th October the man continued to improve under tonics and diuretics. Towards the end of October the scrotum and penis became swollen, an exceedingly unfavourable symptom in such a case. The penis was punctured, and on the following morning the flow of serum had been so great that it had filtered through the bed, on to the floor. The man derived great relief from the operation, which had to be subsequently repeated. He soon began to sink; had repeated attacks of dyspnea; blood was mixed with the sputa, and the lower part of the left side of the chest became dull on percussion.

On the 19th of November a blush was observed on the right elbow. On the 20th this had extended to the shoulder, and to the wrist; was attended with great tumefaction, and large vesicles had formed on the surface, which presented a lemon-yellowish tint. On the 21st the tumefaction and redness, now of a dark tint, had extended to the right side of the neck and chest. The entire of the right upper extremity was tense, and large bullæ had formed on the right elbow. The pulse was slow, only 72, while the heart beat at the rate of 156 in the minute, *i.e.*, more than double that of the radial artery. The man declared that he suffered no pain on pressure, showing that cutaneous sensibility was impaired. He died on the morning of the 23rd November, at 3 o'clock. On making a *post mortem* examination the right upper extremity was found in a state of incipient gangrene; the cuticle had peeled off from nearly the entire surface, and all the great serous cavities were full of serum —the pericardium, the two pleuræ, and the peritoneum. The right lung was found consolidated in its lower half, and this portion of the organ sank in water. The heart was greatly enlarged; it was fatty on the surface, and two "milk spots" of large size existed, one on the right ventricle, and the other on the left very near the apex. The right cavities were occupied by some discoloured fibrin, and dark coagulum. The right auriculo-ventricular orifice was so large as to admit the four fingers and thumb. The upper portion of the right ventricle was considerably dilated, and seemed to form a second chamber in the situation of the ventricular sinus; pulmonary artery dilated, but its valves were competent; left auricle and ventricle contained some dark clotted blood, and were greatly dilated; left ventricle was likewise considerably thickened; left auriculo-ventricular orifice normal; mitral valves slightly thickened, but otherwise healthy, and competent to close the orifice, so that water poured into the ventricle, whilst the aorta was compressed, did not flow back into the auricle; aorta dilated, atheromatous in patches, and of a deep scarlet tint throughout; aortic valves healthy, but inadequate to

close orifice, owing to dilatation of aorta; water poured into aorta flowed slowly into ventricle through a small aperture in the axis of the opening; scarlet tint of lining membrane of aorta extended into both carotids, right subclavian, axillary, and brachial arteries, and was everywhere not removable by washing; no embolus was found in any of the arteries of the right upper extremity, which were carefully examined with a view to determining this point. With one inch of aorta and of pulmonary artery attached, the heart weighed $32\frac{1}{2}$ ounces; walls of left ventricle were $\frac{9}{16}$ of an inch thick at apex, $\frac{3}{4}$ of an inch at middle and at base; left ventricle, measured from root of left segment of mitral valve to apex, was $4\frac{3}{4}$ inches long, and from septum to left wall it was $2\frac{1}{2}$ inches wide, in collapsed state. Microscopically examined, with a power of 222 D, the fibres of the walls of left ventricle were found converted into strings of oil-dots, which, after treatment with strong acetic acid, were seen arranged in unbroken linear series; no trace of transverse striation was anywhere visible. Liver was enlarged, and contained much fat in form of oil globules, both in hepatic cells and interstices; it sank in water. Gall bladder empty; spleen of normal size, and apparently healthy.

The features in this case revealed by *post mortem* examination, which were of the greatest interest, were the following:—The absence of mitral valve disease; both segments of the valve were thickened, but not out of proportion to the hypertrophy of the walls of the left ventricle; they were competent to close the orifice, as proved by the water test. The aortic valves were incompetent in a slight degree; there was no aortic valve disease, and the slight incompetency observed was due to dilatation of the aorta. The inner surface of the aorta was atheromatous throughout, the atheroma being deposited in large patches, and in largest quantity at the root of the vessel, which was thereby rendered rough. The existence of aortitis, and arterial inflammation extending into the carotids and main artery of the right upper extremity, suggested the possibility of embolism, or arterial thrombosis, as a cause of the erysipelatous and gangrenous inflammation which so rapidly disorganized the right arm and shoulder; and, indeed, before the patient's death, the possibility of this, in connexion with assumed disease of the valves, occurred to his mind, but nothing of the kind was found after the most careful examination.

The chief interest of the case, however, had reference to the existence of hypertrophy of the heart, to the extent of nearly threefold development of the organ, without valvular disease or valvular inadequacy, save that which in a very slight degree existed at the aortic opening; and, still more, had it reference to the existence of an indubitable mitral reflux-murmur, which, in the absence of mitral valve-disease or inadequacy, must be attributed to yielding of the walls of the ventricle during systole.

The explanation of such an occurrence was to be found in the state of tissue-degeneration, of which the heart presented so good an example; the existence of dropsical effusion, hypertrophy, and of the other ordinary consequences of valvular disease of the heart, must be likewise attributed to the same cause. The existence of jaundice in cardiac dropsy, and connected with hepatic engorgement as its ostensible cause, Dr. Hayden was disposed to regard as evidence of fatty disease of the liver, and, inferentially, of the heart also.—*Dec.* 7, 1867.

Cancerous Disease of Lungs.—Dr. Jennings detailed the history of a case of cancer of the lungs, of the variety termed "cephaloma" by Carswell, and "medullary sarcoma" by Laënnec.

The preparation, as also the cast of the chest which he exhibited, was obtained from a patient aged forty-two years, who had been admitted into hospital on the 28th August, 1867. At that time his complexion, which was naturally florid, had assumed a somewhat sallow tinge; his eyes were bright, his features pinched, and expressive of anxiety and distress, and his general appearance emaciated; but in other respects he did not present any marked appearance of malignant cachexia. He stated that about the close of the past year, up to which time he had enjoyed excellent and uninterrupted health, and had followed the laborious trade of a stone-cutter, he gradually began to be sensible of shortness of breathing, which exertion soon increased to a sensation of suffocation, and that cough shortly afterwards set in, accompanied by slight expectoration. About three months from the commencement of his illness he was suddenly attacked in the evening by pain at the right side of the sternum, which continued very intense until the following morning, and then subsiding was never experienced afterwards. Four or five weeks previous to his admission a general soreness was felt over the entire right side, which continued pemanent, but not sufficiently severe to produce much distress.

These symptoms, with the addition of stridulous respiration, which had first attracted his notice about three weeks previously, constituted the summary of his history as detailed by himself.

The scantiness of this account, however, was fully counterbalanced by the existence of physical signs of an unusual and alarming nature. Percussion disclosed extreme dulness over the entire right side of the chest, in front and behind, vocal fremitus and resonance being also very distinct, especially above and in front under the clavicle, and in the scapular region posteriorly, the opposite side being everywhere abnormally resonant, even over the *præcordium*.

On auscultation no sound could be detected in the right side except limited coarse tubular breathing, superiorly and posteriorly in the scapular region, between that bone and the spine, while over the left side respiration was intensely puerile.

The action of the heart in the precordial region was tranquil, though faint and distant, while over the entire right chest its double sound was much more distinctly audible.

The pulse was weak and equal at both wrists.

During respiration the right side was seen to be perfectly motionless, while the action of the left was excessively heaving and laboured, and the intercostal sulci deepened to an unusual extent during expiration. Complete obliteration of the intercostal spaces, and marked increase of size, were observed on the right side, which was found to measure, on the level of the nipple, 19 inches, while the opposite was barely $17\frac{1}{2}$ in extent.

Under the right clavicle was seen a semi-globular tumour (which had first appeared about the middle of the month of May) about the size of half an orange, its base extending from the margin of the second rib to the lower border of the great pectoral muscle, bounded towards the mesial line by the edge of the sternum, and sloping from its apex towards the axilla. To the touch this was tense and elastic, and its surface traversed by several enlarged and tortuous veins.

About a fortnight after his admission an enlarged gland was observed above his right clavicle; this enlarged very rapidly, and from this time until his death, which occurred on the 5th Oct., his general sufferings, emaciation, and dyspnea, daily increased, the general surface of his body being constantly bathed in perspiration. While under observation his cough was short and teazing, and his expectoration scanty in quantity, and in character thin, clear, and frothy. He never suffered from hemoptysis.

Post mortem—Chest.—On raising the anterior thoracic wall, which was effected with the greatest difficulty in consequence of its intimate adhesion to the subjacent disease, the anterior mediastinum, as also the antero-superior surface of the right lung were found occupied by a mass of white coloured, inodorous, cheesy deposit, which, tough and firm to the touch in other parts, had to the right of this bone softened to the consistence of semi-fluid lard, and having here absorbed the intercostal muscles between the first, second, and third ribs, had formed the tumour visible during life.

Both layers of the pleura were identified together, and adherent both to the thorax and diaphragm so intimately, that in removing the lung its substance was unavoidably torn in several places. Thus united, these layers were further extremely thickened, especially inferiorly, where their depth was found to vary from half an inch to one and a-half inches.

The substance of the right lung was universally and thickly studded with minute miliary granules; its colour was dark-red from congestion, non-crepitant, and sank rapidly in water; it was also traversed by whitish fibrous bands.

The left lung was greatly enlarged in volume; its anterior margin overlapping and concealing the pericardium, and thus accounting for the faintness of the heart's action. It likewise was universally the seat of similar cancerous deposit. It was not, however, congested, and floated in water. Its pleura was not thickened nor adherent, save in one spot under the left mamma to the extent of about a shilling.

The heart did not attract notice, further than that it was paler in colour than usual, and somewhat flabby. The right auricle was obviously flattened, and all the chambers contained less blood than usual.

The posterior mediastinum was filled with morbid deposit and contaminated glands in various stages of disease, some whitish in colour and of cheesy consistence, others dark-blue, and so hard as to turn the edge of the knife. Several of these latter intimately adhered to and compressed the right bronchus, thus producing the stridulous respiration heard during life; the "stridor from below," as this sound has been termed by Dr. Stokes.

Abdomen.—The liver was natural in size, but contained several cancerous tubercles, some as large in outline as a half crown, but none presenting the depressed centre and stellated lines described by Farre.

The lymphatic and mesenteric glands, as also the pancreas, were extensively implicated, and the spleen likewise contained two or three malignant nodules.

The lesser curvature of the stomach was occupied by a large mass of indurated glands, but its coats were completely free from disease.

The kidneys were enlarged and congested, but not otherwise diseased.

Dr. Jennings observed that the great obscurity connected as well with the subjective as the objective evidences of malignant affections of the lung, especially when the disease presented itself in the form of simple transformation of tissue, and without the development of any intra-thoracic tumour, producing obstruction or displacement, had long been universally recognized, and that the difficulty of forming a positive diagnosis in such cases, when the judgment was unaided by the suspected or unequivocal presence of cancer in other situations, was, as had been observed by many authors, frequently extreme.

In the present instance, notwithstanding the presence of the external tumour and the manifest bronchial compression, the precise nature of the case was by no means as clear as might be imagined; and the latency of all evidence of engagement of the abdominal organs was a striking and most remarkable fact. It might, perhaps, seem almost inexplicable that the existence of such widely spread morbid action in this situation, should not have been detected, and thus have aided in accounting for

whatever seemed unusual or anomalous in the physical condition of the chest. Yet never at any period during the progress of this most remarkable case was the attention even of the patient himself directed to his abdomen, where malignant disease was generally so clearly expressed as to remove all doubt or hesitation as to its real character; and though it was most strange, yet it was no less true, that this patient had never suffered from enlargement, pain, or even tenderness of his abdomen, nor yet from dysphagia, nor jaundice.

Of the physical signs observed, the most prominent of those which most materially aided in establishing the diagnosis, were, the extreme dulness of the side, and the remarkable diffusion of the heart's sounds. That this dulness did not result from empyema was proved by its not transgressing the median line, by the absence of cardiac luxation, and by the presence of vocal resonance and fremitus, while the history of the case, and the want of many of the most ordinary symptoms of "tuberculosis," diverted suspicion from this disease. That the tumour was not aneurismal in its character was at once evident from the absence of the usual acoustic and tactile signs of that affection, as it possessed neither expanding pulsation, sound, nor murmur.

This kind of negative deduction, strengthened, moreover, by the unusual enlargement of the side, which proved that it could not be an instance of chronic pneumonic solidification, and the compression to which the bronchus was evidently subjected, dissipated the difficulties which at first sight presented themselves.

Dr. Jennings expressed his sense of obligation to Dr. Purser, who had conducted the *post mortem* examination, and had favoured him with the following microscopic observations :—

In right lung.—The cancerous nodules developed in the trebecular tissue consisted of fibrous stroma, enclosing spaces in which large epitheloid cells lay in groups.

The air vessels were much compressed, and in some cases were filled by exudation either amorphous or cellular, the former of a brownish colour, and apparently consisting of disintegrated blood.

The granulations in the left lung were similar in position and anatomical structure to those in the right. The air vessels on this side were in general greatly dilated.

The right thickened pleura consisted for the most part of firm fibrous tissue, with small cells lying singly through it, but in certain spots these had increased in size and number, and lay in groups.

The cells in these spots were smaller than those in the pulmonary granules.

The tissue of the liver in general seemed healthy. The nodules in it consisted of fibrous stroma enclosing spaces in which were grouped cells similar to those in the pulmonary nodules. The origin of this

tissue, from the connective substance of the liver, could be clearly seen at the margins of the nodules. In the cheesy lymphatic glands the glandular tissue was completely lost. They consisted of cancerous structure similar to that in the lungs, except that the cells were somewhat swollen.—*Dec.* 14, 1867.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.[a]

THIRTIETH ANNUAL SESSION.

Dr. Hardy, President.

Vesicular Mole.—Dr. C. F. Moore read a case of vesicular mole or hydatid degeneration of the chorion. J. R., a laundress living with her husband, aged about fifty, somewhat anxious-looking; ten children; never miscarried; eldest now twenty-nine years old; last child born ten years ago; eight now living; regular menstruation ceased about two years ago, but she was ill every seven or eight weeks since, each alternate time being severely affected.

The discharge was sometimes preceded by a watery fluid. Between 15th and the end of August last she was very ill. Her next illness was in second week of November, and from that date until 3rd January she had continual bloody discharges, dark at first, but of a bright colour latterly. On that day the hydatiginous masses came away, being attended with considerable loss of red blood and great pain in the back.

She had in the preceding two months frequent bilious vomiting, giddiness, and debility.

When I obtained the specimen, eighteen hours after its discharge, it was, as has been well described by Dr. Churchill, of a beautiful pink colour, generally with some vesicles almost colourless, the vesicles being pyriform, ovoid or round, and varying from the size of a pin's head, or smaller, to that of a grape. The hydatids were in two masses, and so fragile I have brought only the smaller portion, which has lost its beautiful tints by keeping; the larger is the size of a child's head. It is unnecessary in this Society to speak of the great difference between these moles and the true hydatid echinococci which are said to have entered the uterus, as is supposed from the liver and abdomen in one case, and to have escaped from the vagina, in a recent case recorded by Dr. Hicks. My brother, Dr. W. D. Moore, ascertained that the urine was not albuminous in J. R.'s case.

The age of the patient J. R., fifty years, induced me to bring the case under the notice of the Obstetrical Society.

[a] These Reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

The sanguineous discharges described by J. R. as taking place at intervals of six or eight weeks during the two years subsequent to the cessation of regular menstruation, were at times of an offensive odour.

As she has always lived with her husband since the time of her marriage, the case of J. R. tends only to corroborate the statement of those who regard the hydatid form of mole as a result of conception. At the same time it is well to bear in mind that in this case it seems probable that the conception, which produced this degenerate result, occurred more than two years before the expulsion of the hydatiginous mass.

The patient did not regard herself as being pregnant, although she felt some enlargement of the abdomen. She remarked upon the occurrence of the occasional discharge of watery fluid, generally preceding the attacks of hemorrhage, which Sir C. M. Clarke has attributed to the bursting of a hydatid. It is not my intention at all to enter upon a consideration of the question whether hydatid moles ever result without conception having preceded their formation, or the other important medico-legal point—namely, the length of time that may elapse between conception and the expulsion of the hydatid mole.—*February* 8, 1868.

On Rigid Perineum. By Dr. Guinness Beatty.

It will be in the memory of many members present that on the 12th of January, 1867, a paper on "Rigid Perineum and an Operation for its Relief," was read before this Society by Dr. Beatty. A case similar to that related by him (and I believe the only one on the records of the Rotundo Lying-in Hospital), having lately occurred in that institution, I wish to bring it under the notice of the Obstetrical Society.

On the 18th of last month (February) I was requested to hurry to the labour ward, when I found Ann Farrell, aged thirty, of middle height, but exceedingly thin and emaciated, lying on the couch in labour of her first child. Dr. Richardson, who was on duty, told me she had been in the second stage since half-past one o'clock (it was then just three o'clock p.m.)

The head was well down on the perineum, and during the pains a hairy scalp was protruded through an unusually small vulva. The perineum was, and had for some time been, greatly distended, and measured from the anus to the fourchette nearly four and a-half inches—the longest I had ever seen.

At first sight it appeared as if the next pain would do its duty and expel the head, or that the slightest help with the hand would drive it out; but, when the pain was over, on examination with the finger I found a flat unyielding band, formed by the sphincter or constrictor vagina muscle, and over which the pains appeared to have no influence.

I lost no time in communicating with the master, Dr. Denham (who had never seen a similar case). He agreed with me that this one appeared suitable for the operation my uncle had proposed and practised. Accordingly, following his plans, I, with an ordinary pair of scissors, divided, longitudinally, one inch of the soft parts, in the median line. After two or three pains had come and gone, and the head was not expelled, I further divided another quarter of an inch. The head was born the very next pain, and without any additional laceration. The child was a male, and of good size; and I may here mention that, on after inspection, the patient had a wonderfully good perineum left; that for three or four days poultices were applied, and afterwards black wash was ordered as a dressing; and that she left the hospital perfectly well on the 11th inst.

The simple operation necessary (in such cases) to avoid inevitable laceration would, I feel sure, have presented itself to any one's mind; but, from the fact of its not being an usual operation, some, especially young practitioners, would have felt diffident in performing it. However, having carefully studied my uncle's paper, I felt here was an opportunity for practising what he had advised. For in my case I feel sure that had nature been left to herself the unyielding band would have stood its ground; the child would undoubtedly have been expelled between the fourchette and anus, and the consequent rent would have been most extensive—probably into both rectum and vagina. From the favourable termination of this case I shall always feel fully justified in both recommending and practising the operation in similar cases, the ordinary means having been first fully tried.—*March* 14, 1868.

On Anomalies in the Mechanism of Parturition. By Dr. Halahan.

Some six years since I had the honour of making a few remarks to this Society upon the mechanism of labour, and then stated that I considered the description given by Naegelé to be the accurate and only correct one; and I further maintained that although the head enters the brim of the pelvis in one of the four positions described by him, yet at the commencement of labour, when the os uteri is barely beginning its dilatation, the anterior foutanelle is always directed towards either acetabulum—that is to say, presenting in the third or fourth positions of Naegelé, that the fourth changes at the beginning of labour into the first, and that the third does not change into the second until the head has reached the floor of the pelvis. This I believe to be the general rule, any other being the exception. I have now no reason to alter my opinion; although it has so far received no confirmation from writers since then, yet it has indirectly from Naegelé himself, which I was not aware of until Dr. Leishman, of Glasgow, wrote his book on the mechanism of

parturition, as, unfortunately, I am not a German scholar, and had read but one translation of that great author, that Dr. Rigby published in 1829. Since then I have read three others and find some difference in each; however, Dr. Leishman asserts that "Naegelé considered the first and third cranial positions to be the ordinary forms of vertex presentation, the second to be a mere phase in the progress of the third, and *the fourth to be a rare variety of the early stage of the first.*" By this it would seem Naegelé sometimes considered the fourth position as nothing more than the early stage of the first (what seems strange to me is why he did not always consider it so).

Notwithstanding though I believe the third and fourth German positions usually take the course so accurately described by Naegelé, yet I have found it sometimes so happens that they take a most extraordinary one; these I have named anomalies, which I wish to bring before your notice, as I believe it has not been written upon by modern authors, although I think it can be fairly inferred from some of the older authorities that they at least observed it.

The anomalies I allude to are where the head enters the brim of the pelvis in the third position changing to the first, and where the head enters the brim of the pelvis on the fourth position changing to the second; thus, if you examine and find the head in the third position, with the pains strong after some time the anterior foutanelle, which has been struggling to gain the left sacro-iliac synchondrosis, sweeps past it and takes up its position opposite the right sacro-iliac synchondrosis—that is, the head is now in the first position, in which position it is expelled. The face, instead of turning up to the right thigh of the mother, turns towards the left, and external rotation takes place, precisely as if the head had been expelled in the second position.

Examining in these cases for the fetal heart you will find, at an early period of the labour, it most distinctly heard upon the right side, whereas later in the labour it is most distinctly heard on the left; also the head swelling will be found on the front part of the left parietal bone.

I am sure, as far as external rotation is concerned, that many have observed it occasionally to follow the course I have now described. At the same time I am far from saying that upon all these occasions the head has originally entered the brim of the pelvis in the third position.

I need not detail the mode in which the fourth position changes to the second, as it takes the converse course of the third, external rotation taking place as if it had been expelled in the first position; the fetal heart changing from left to right, and the head swelling, occupying the front part of the right parietal bone.

I have accurately observed the above changes take place three times in cases where the head entered the pelvis in the third position, and once where it entered in the fourth.—*March* 14, 1868.

Cephalotripsy.—Dr. J. A. Byrne said that this operation having been so rarely performed in this country, and it being one as to whose merits there was some difference of opinion, he was induced to give the history of a case in which he, assisted by his friend Dr. Kidd, operated very lately, and thereby had an opportunity of testing the efficacy of the instrument.

On November 24, at 11 a.m., I was requested to visit Mrs. R., the wife of a cabman residing in the neighbourhood. She had been in labour twenty-seven hours, and the liquor amnii had been coming away since the commencement of it. She was suffering very much, and had not slept. On making an examination I found that the head was very high up, the os uteri rigid, and not larger than a shilling.

She did not appear during the whole of this time to have been managed in the most scientific manner; the room was close and stifling, and she was made to conduct herself as if in the second stage of labour, having been kept in bed the entire time, and desired to bear down; this I ascertained from her attendant, Mr. Burke, who had been some time with her, and who could not prevail on her to follow his advice.

This, I need scarcely say, had not rendered her condition the most suitable for a difficult labour, as it turned out.

She was a woman of hard features, of rather stunted form, and advanced in life being about forty years of age; her fingers presented in a well marked manner the coarse clubbed appearance indicative of hard country life to which she had been accustomed before marriage—a circumstance to which importance is attached by some authors, as being significative of narrowing or abnormality of the pelvis.

I ordered her to have a hip bath, which was to be followed up in an hour by an anodyne enema; that she should be kept cool, and that when she had obtained some rest she should get up and walk about for a short time, and have beef-tea.

5 p.m.—I visited her; she had obtained some rest; she had passed water; the os uteri had dilated considerably; she had been very sick. I ordered her another hip bath, to be given at 6 p.m.

9 p.m.—The os uteri had dilated considerably. There was a large scalp tumour; however, the head had entered but barely into the pelvic brim; the fetal heart was audible. She felt refreshed by the bath, but had slept only a little. She appeared, however, to be gradually sinking into that exhausted condition which is so strikingly characteristic of this kind of labour. Her pulse was above 100, very weak; her tongue dry; her lips and teeth covered with sordes; the pains were constant but of little use; the vaginal discharge had been for some time assuming the pea soup colour and consistence, and the vagina itself felt hot, and was tender to the touch; and it was evident that the time was approaching

for aid to be given, more particularly as at this examination the sounds of the fetal heart were becoming weaker.

I, along with Mr. Burke, prescribed a dose of ergot, to be given at 10 p.m.; to have some wine and beef-tea.

11 p.m.—She was now more than forty hours in labour; and matters being much about the same as at last visit, I, at first having put her under the influence of chloroform, assisted by him, proceeded to apply the forceps.

On examining her I found that although the cranial vault and scalp tumour had come down, yet in the true sense the head was above the brim, the os was fully dilated, and the promontory was very distinct; and it was evident that the antero posterior diameter was under three inches; the pelvis, moreover, seemed contracted in its lower outlet.

It appeared a very unpromising case for the application of the forceps. However I applied them when she was fully anesthetized; the application was difficult, and when applied I made all the traction I could compatible with safety, but with no result; the head did not make any descent, and matters remained as before.

12·30 p.m.—Having endeavoured unsuccessfully to deliver her with the forceps, and feeling satisfied that it would be impossible, I left her in charge of Mr. Burke and went for my friend Dr. Kidd, who kindly accompanied me on the instant. On his arrival he examined her most carefully, and applying his own forceps he made attempts to extract the head, but he failed to make any impression on it, and he was reluctantly compelled to withdraw the instrument.

I need scarcely say that the condition of the woman by this time was very bad, as those know who have seen such unsuccessful attempts made. She was in a state of the most complete exhaustion, and we were for some time afraid that she would not rally; however, by the exhibition of stimulants she improved after a short time, and when she had rallied we in consultation determined to apply the cephalotribe.

Assisted by Dr. Kidd and Mr. Burke, I perforated the head and gave exit to its contents partly. I then introduced the blades of the cephalotribe and crushed the cranium and base. This I repeated. The effect of the crushings was manifest by the more rapid evacuation of the cranial contents.

In order to see Dr. Kidd, who had such experience of the instrument, use it I now gave my place to him; he undid the blades and reintroduced them, and applying them to a fresh point made pressure; then used traction. The head began to descend, and the labour was speedily accomplished, without any laceration of perineum or vagina, and more easily than I had ever seen in cases where the crotchet was used for narrowing of the pelvis.

There was some smart hemorrhage, which yielded, and the woman

recovered quickly; never required the catheter to be passed and was quite well in a few days.

The child was a fully developed male.

In introducing the blades of the instrument both Dr. Kidd and myself could more easily form an opinion as to the amount of narrowing; the antero posterior diameter appeared scarcely $2\frac{1}{2}$ inches, and was decidedly under 3.

A plaster cast with the blades applied just as they had been during the operation, was exhibited, as well also as Dr. Kidd's cephalotribe, and Sir James Simpson's.

The head itself was also shown in the same condition as after its extraction.

On looking at the head we observe how powerfully compressed it is between the blades of the instrument; the base of the skull is smashed posteriorly and at the sides, and crushed, and in this way the face and head are, as it were, rolled together in one mass.

In this way the mass which had to pass through the diminished pelvis is considerably lessened, and it could have been reduced to a still smaller compass had it been necessary, as by a few more crushings it could have been broken into very small fragments. It was not necessary, however, in this case, as two crushings were quite sufficient; but had the deformity been greater, with the instrument improved by Dr. Kidd, the head could have been extracted.

This instrument possesses great power both as a tractor and compressor—the last effect can be easily imagined when we see that the breadth of the blades when closed is only one inch, but the tractile power is immense, and in my mind infinitely superior to that enjoyed by the crotchet. I do not think that, in fact, any comparison can be instituted between them.

Dr. Kidd, to whom we are indebted for the introduction and first employment of this instrument in this country in obstetrical practice, has directed the attention of the profession here and elsewhere to its great value; and he has tried it in so many cases, and has so improved the instrument, that I shall not enter into any description of it. The cases in which it has been used were all cases of deformity of the pelvis, varying in amount, but all cases in which delivery by forceps was impossible. Dr. Kidd has adduced such strong reasons in support of using the instrument, which he has improved upon, and which may be said to differ from Sir J. Simpson's and Dr. Buxton Hick's, in its not possessing the pelvic curve, and being somewhat longer; that I, as far as my experience goes from the present case, am inclined to agree with him and prefer the straight instrument to any other.

1. Dr. Kidd says that the first advantage is that it permits of the head being rotated in a smaller space than with a curve blade.

2. It is easier to guide a straight instrument than a curved one.

3. It holds the head more securely.

4. In making extraction the handle of the straight instrument indicates the direction in which traction should be made.

Sir J. Simpson says that the great advantage of the curved instrument is that it does not slip when applied, as a straight one would; as one of the great difficulties is that, that after fixing the head it slips backwards.

My opinion is that this instrument of Dr. Kidd's fulfils every indication, and that although we might be able to use either Sir J. Simpson's or Dr. Hick's in the majority of cases, yet that his is an instrument calculated for almost any case where the deformity would be of sufficient extent to call for this operation.

Since the introduction of the cephalotribe into the practice of midwifery in this city, Dr. Kidd has brought before the notice of the profession four cases, and Dr. Ringland two cases, in which the operation was performed—in all of them pelvic disproportion of a greater or less extent prevailed, but of an extent to prevent a living child passing, or of extraction by the forceps.

The cases have been detailed here and elsewhere, and the medical public are familiar with the particulars of them, which have been published. I am not aware whether the operation has been tried by other persons in this city, or whether any cases have occurred in the Lying-in Hospital, which generally receives so many bad cases, calling for instrumental assistance; but I am happy to have it in my power to add another case to the as yet comparatively few which in this city have been given to the medical public, and again to give my small praise to an instrument which I think, by its greater power and freedom from danger to the mother, and its greater rapidity in accomplishing delivery in those cases where we must diminish the fetal head, has a marked and manifest superiority over the crotchet, and will, I think, in most cases, eventually supersede it.

TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

Professor Seaton Reid, President.

Case of Locomotor Ataxy.—Dr. Henry Brown read the following case:—

Mr. M. J——, aged twenty-eight, single, well-made, and about six feet in height, consulted me in August last. After a very careful examination, I considered him labouring under *locomotor ataxy*, or Duchenne's disease; but, as I had never seen a case before, I thought it advisable to

consult some of my medical friends, and he was seen by Dr. W. MacCormac and Professor Cuming, both of whom considered the case one of locomotor ataxy.

The symptoms first began about ten years ago; but for the last four years they have greatly increased, during which time he has been under treatment (at one time or another) of various kinds, without receiving benefit.

His attention was directed to his feet at a very early stage of the affection, and he found that in walking, a constant watch was absolutely necessary to enable him to progress with any degree of satisfaction. The habit of walking with his head in a downward direction he could not account for; but he was certain that up till his eighteenth year he had not noticed anything peculiar in his gait, and was not in the habit of "hanging his head." At present, when walking, he resembles a person under the influence of liquor, throwing his feet out without any precision, and they fall heavily upon the ground. His feet, even to himself, seem to fall "*all of a piece*," and when they come in contact with the ground a sensation is conveyed to him, so that he imagines it possesses no firmness, and he is obliged to use a staff to prevent himself from falling. Under no circumstances could he walk in a straight line.

In damp weather every bone seems dislocated, and the muscles of the legs are much more beyond control than in dry bracing weather. He dreads this relaxation much, for it is with the utmost difficulty he can at all progress. The limbs seem to be well nourished. No diminution in the sensibility of the cutaneous surface can be observed. The points of compasses or other sharp-pointed instrument, can be perceived with exactness; and I took care that the eyes were obscured during this examination. He can flex and extend the legs with great force. When the leg was extended, neither Professor Cuming nor I could flex it. When seated and requested to raise a leg into the horizontal position, he can do so without any assistance; but his eyes are steadily fixed upon the limb during this movement. He cannot stand upon one leg, nor can he stand when his feet are close together, without the aid of a staff, and then only with difficulty. He cannot bring the feet into close approximation without considerable shuffling; and, if he be requested to close the eyes when standing with his feet together, he is seized with a sensation of dread lest he fall, and he opens the eyes after momentary closure with delight at finding himself still standing upon *terra firma*.

The upper extremities are well nourished. For some time he has been very much troubled with "*a burning*" of the hands, which causes great annoyance; and, as he is a book-keeper, he requires to bathe the hands frequently in cold water to ease this painful sensation, which is always attended with profuse sweating. He can write with his wonted facility, except in the morning, when the right hand is rather tremulous, but this

usually disappears in half an hour or an hour after commencing business. There is no paralysis of the upper extremity.

In order to test his strength I got him to lift a bale of tow—weighing one hundred and a quarter—and this he could have carried upon his back, but for a tendency to fall which he experienced, owing to the want of control over his lower members. He told me he could lift even more than the above weight, and that his strength in this respect was as good as could be.

In the lumbar region an acute burning pain is sometimes felt, which often continues for an indefinite time, and a painful spot can frequently be pointed out, but not always. Percussion, however, causes not the slightest pain; and the spinous processes may be pressed upon without eliciting pain. When pressing the lumbar spines on one occasion, however, pain was felt, and he expressed it—as if burned with a heated sharp-pointed iron.

This is the region of greatest weakness, and he is obliged to wear a bandage and stays to afford support, else he could not walk. To use his own words—"without the stays he would fall in two."

Over the frontal region a dull heavy pain is almost a constant companion, and, at times, confusion of ideas accompanies it. Noise in the head troubles him very much, and is greatest after rising in the morning. This noise he compares to water heard falling from a considerable distance. In order to remove a feeling of stupor he is obliged to wash his face in the coldest water obtainable, every morning, at least three or four times, and this process is repeated several times during the course of the day.

When exposed, during the transaction of business, to the open air, and then confined to office work, the stupor becomes most unpleasant, and ablution is the only relief he can obtain. There is constant singing in the ears, and the sense of hearing has become blunted of late. The pupils contract perfectly upon the stimulus of light; they are larger than usual, but there is no impairment of vision, nor does he complain of visionary spectra.

The senses of taste and smell are unaffected.

When spoken to in a loud or commanding manner he loses all control; and he has frequently been nearly run over on the street from his inability to move when shouted at. At night, it is with great difficulty he can cross from one side of the street to the other, and his gait is much more unsteady, for an obvious reason. His digestion is excellent, and the bowels are never confined. There is no paralysis of the rectum. The bladder possesses its tonicity, and the urine is voided with ease, but he requires to wait a little before the process of emptying commences. This process requires no straining, however. Sleep is disturbed by frightful dreams, and he invariably awakes at three o'clock in the morning. Seminal emissions occur at least three or four times in the week,

and exhaustion is very great after these. There is no incontinence of urine at night. I have inquired whether he has had any of the shooting pains which "come on and go off with the rapidity of lightning, or of the electric spark," and find at no time have they been observed. I have observed his articulation, and consider it slightly *muffled* of late, but it is distinct. He confesses it is not so good as it formerly was.

He has never been guilty of excess of any kind.

His father is alive, and has attained the age of sixty-seven. His mother died a short time ago at the age of sixty-two. For the last two months of her life she was unconscious, or nearly so; and is supposed to have died of some heart affection. This is all the information I can obtain in reference to her death. She was very healthy previously to an attack of rheumatism, from which she never got quite well. His brother, who is a few years younger than the patient, is a healthy young man.

As regards treatment, various remedies have been employed from time to time, by others and by myself, without any appreciable benefit. He has taken strychnia, phosphorus, iron in various forms, iodide of potassium, and tonics in every shape and form, without any good result. Liniment of iodine was applied to his back previously to consulting me, electricity, and no end of other means proving quite impotent to remove, or even slightly benefit his condition. His affection was considered to be paralytic by some who saw him early, and others thought it was inflammation of the spinal cord or its membranes.

More benefit has been obtained from cod liver oil, and a good wholesome diet, with a liberal use of sweet milk, than from all other means combined. I advised nightly ablutions of the genitals with cold water, and great good has resulted from this practice.

Under the use of some lauded remedies the patient lost ground; iodide of potassium increased the debility, although he got only a grain and a half twice daily. An occasional bottle of porter, with the generous diet, have caused an increase in his weight of several pounds within a very short time.

At present (19th March, 1868,) the condition of the patient is much the same as when seen by the members of the Ulster Medical Society in October. He is getting a pair of spring stays made, and he hopes to be able to walk with greater ease. The generous diet is still continued, and the patient considers his condition "at a stand-still." I can observe no change myself; but he is decidedly stouter than when I first examined him.—*October* 16, 1867.

Dr. Cuming exhibited the supra-renal capsules of a patient who had been in hospital under the care of Dr. Drennan. The capsules were greatly enlarged, and contained large cheesy masses, having the characters of tubercle. The lymphatic glands in the neighbourhood were

also tuberculous. There was no discolouration of the skin or of the mucous membranes. The patient had suffered principally from abdominal pain and gastric irritability.

Dr. Cuming read *Notes of Case of Empyema*, which is published in the *Quarterly Journal* for February, 1868.—*January* 3, 1868.

Case of Popliteal Aneurism. Dr. William MacCormac read the following notes.

Daniel Dobbin, a man twenty-seven years of age, pale and thin, of a lymphatic temperament and peevish disposition, was admitted to my wards in the General Hospital, on Sept. 25, 1867. His occupation is to drive a spring-cart, and he states that four months ago he fell off the cart, striking the step in his descent. He felt his leg very painful for some time, but the limb afterwards perfectly recovered.

About six or seven weeks before coming to hospital he noticed a feeling of stiffness in the right ham, followed by the appearance of a small tumour as large as a bean, which rapidly increased in size.

On admission we found an aneurism filling up the right popliteal space, and fully as large as a medium-sized orange. There was a bruit, and strong distensile pulsation, which could be readily controlled by pressure upon the artery in the groin, and whilst the pressure was kept up the sac could be emptied almost completely. The leg was œdematous, the pulse 60, and rather weak, the heart sounds are natural, and the tongue is quite clean.

The treatment at first consisted in gradual compression, and then an attempt at complete, which only proved partially successful.

Carte's compressor was first employed, but the restlessness and fretful disposition of the patient continually disarranged the apparatus, and I found Signoroni's tourniquet more efficient and more manageable, as well as more readily borne by the patient.

On the 7th October, twelve days after admission, compression having been maintained more or less perfectly for about ten hours each day, it is reported that, although perhaps somewhat firmer and smaller, the tumour is but very slightly altered since admission, and for the last five days scarcely any change has taken place. I therefore determined to try the method of complete compression, and effect, if possible, a rapid cure. I ascertained that a pressure of four pounds readily controlled the femoral, and devised the following arrangement, which was simple and efficacious. I suspended directly over the patient's groin a short round bar of iron, 8 lbs. weight, by means of a cord attached to the ceiling, and into this cord was inserted a piece of India-rubber, so arranged as to reduce the pressure of the iron to four pounds, and to steady the apparatus at the same time. A round button, about an inch in diameter, of polished mahogany, was attached to the end of the bar next the skin. All

that was necessary was to lay this upon the artery, just below the pubis, and with hardly any effort of attention the pulsation in the tumour could be kept completely and absolutely arrested. As it was hopeless to expect a patient such as mine to stand the pain, and exercise the needful restraint for any length of time, I was compelled to keep him slightly under the influence of chloroform during the whole period.

At a quarter before five, then on the 7th, the pressure was commenced and maintained perfectly for five hours. A few jets of blood, however, in spite of our efforts, occasionally passed, in consequence of the man's struggles. The pressure was then removed for a few moments to examine the condition of the tumour, when it was still found beating. During all this time Richardson's ether spray was directed at intervals on the tumour for about twenty minutes at a time, thoroughly freezing the skin over it. This was frequently repeated, until it was deemed no longer safe, as vesication, accompanied by considerable congestion of the part, took place. The compression was resumed, with the addition of forcible flexion of the knee.

After seven hours' trial of these combined methods, the tumour still pulsated, but much less strongly, and no pulsation whatever could be detected in the superficial femoral.

For eleven hours, in short, almost complete compression was kept up. The tumour, however, still pulsated, but not forcibly. The collateral circulation has sprung up, and the attempt had now to be abandoned.

The next day, the 9th, a very faint pulsation could be felt in the femoral. The pulsation in the tumour is very strong, but it feels much firmer.

On the 13th compression of the common femoral was kept up for about twelve hours by Signoroni's tourniquet, and on removal no pulsation was to be felt in the aneurism, nor did it return for eleven hours. Compression was then re-commenced, and maintained as effectively as possible until the 17th, on which day it was kept up from 8.30 a.m. till 9 p.m. On removing the compressor no pulsation whatever could be felt for one minute, and then it returned faintly. On the 21st the pressure was again applied from 9 a.m., till 5 p.m. On removal the aneurism still faintly pulsated, but during the night the pulsation suddenly and finally ceased, and there was no return so long as he remained in hospital. He discharged himself on the 9th December, and the tumour was then becoming gradually absorbed.

Several cases have been recently published by Drs. Mapother of Dublin, Murray of Newcastle, Vanzetti of Padua, and others, showing the advantages of completely arresting the current of blood through the sac in the treatment of aneurism. The treatment of aneurism by compression, a triumph which we owe to the Dublin School of Surgery, has hitherto been based upon the theory that successive layers of fibrine

were deposited in the sac, and that to facilitate the cure a certain diminished current of blood must be allowed to pass through the aneurism. If the views now put forward be correct the obliteration of an aneurism is obtained by the clotting of the blood contained in it, and its subsequent contraction and organization, procured by complete occlusion of the current, and arrest of all movement in the aneurismal sac, for a longer or shorter period of time. In one case mentioned by Dr. Mapother an ilio-femoral sac was obliterated after pressure for four hours and a half on the common iliac, combined with distal pressure on the superficial femoral. In another case of popliteal aneurism pressure on the femoral proved successful after nine and a half hours. At Newcastle an aneurism of the abdominal aorta underwent the process of consolidation in three quarters of an hour, while in another case some twenty minutes are stated to have effected complete cure. The cases reported by Dr. Vanzetti of Padua are, if possible, more striking. They are a traumatic aneurism of the palmar arch cured in thirty minutes, and an aneurism of the femoral cured in less than ten hours.

This method of treatment seems little short of a revolution of that generally accepted, and so indeed it is. In connexion with this matter I read, with great interest and pleasure, some remarks made by my friend Dr. Geoghegan at the late meeting of the British Medical Association in Dublin. He said he had been extremely intimate with Dr. Bellingham, and had seen nearly all that surgeon's cases treated by compression, and for a long series of years had strenuously contended against the principle that the true mode of curing aneurism consists in the mere diminution of the current of blood flowing through the sac. In the discussion which then took place Mr. Ernest Hart, the author of the article "Aneurism" in *Holme's Surgery*, stated "that he felt convinced that this method of rapid cure by complete compression was destined to become generally adopted as the mode of treatment, *par excellence*, of surgical aneurism, and that it was almost as great an improvement upon the slow method of treatment as compression itself was upon the method of the ligature."

In the case just narrated I believe the plan of continuous and complete compression would probably have proved immediately successful had it been more efficiently applied. We had, however, in our patient a very unmanageable person, who resisted our efforts in place of co-operating with them, and in his struggles from time to time a small jet of blood must have gained admission. The only hope of speedy and complete success is in the thorough stoppage of the flow of blood to the aneurismal sac. As it was, I believe a partial clot formed, and this, though insufficient at the time permanently to fill up the sac, proved adequate after the lapse of some days, and was the cause of the sudden cessation on the 21st. I believe the very complete manner in which the collateral circulation was established also aided, in a large degree, to protract the cure, as by that

means blood was freely supplied to the sac by the distal extremity of the vessel. No direct pressure could prevent this, owing to the situation of the aneurism filling the popliteal space, and forcible flexion could not be maintained sufficiently long to effect the same object. I should, therefore, in giving this method another trial, effect if possible compression on the efferent vessel, and if that were impracticable, try, in any case, to procure occlusion of the sac without preliminary partial compression, and without affording time for the collateral circulation to supply the sac with blood. The temporary obliteration of the superficial femoral vessel, which never again became restored in size, is an interesting feature in the case. I should mention that the application of the ether spray, which was kept up for a lengthened period each time, seemed to have no other effect than the production of a troublesome superficial slough, which left behind it an ulcer very difficult to heal. Since writing these remarks I have read a paper by Mr. Samuel A. Cusack, published in the *Dublin Quarterly Journal* for November, 1859, in which he describes an instrument of simple construction for applying graduated pressure by means of weights to the artery. He mentions that in the first case in which he tried it a cure of a case of popliteal aneurism was effected in twenty-six and a half hours. Although it is not mentioned as such, it is probable that in this instance we find an early example of the effects of complete compression.—*January* 17, 1868.

Dr. Cuming read a case of *Mitral Regurgitation, independent of Organic Disease, and exhibited the recent Specimen.* This case is published in the present number of the Journal.—*January* 31.

Cases of Strangulated Hernia.—Dr. William MacCormac gave the following account of three cases of strangulated femoral hernia.

In bringing forward the history of these cases I do not expect to advance anything that is novel upon such a subject as hernia, which has so long occupied the attention of the best anatomists and surgeons. I merely wish to record the details of cases in certain respects not unimportant, and add, perhaps, a little to the common stock of knowledge. I would also wish to urge my conviction as strongly as I could that to operate early is to give the patient the best chance of recovery. Now-a-days, no surgeon would, I conceive, make repeated and forcible attempts to reduce a strangulated intestine. After a judicious and reasonably prolonged effort had been made to reduce the protruded part without operation, and had failed, there is hardly anything to justify much further delay. I have never lost a patient, nor seen any untoward symptom follow an operation from its having been performed early, while every surgeon must have reason to deplore the fatal consequences which ensue but too often from the long continuance of strangulation of the intestine.

Besides, if one form of hernia more than another requires the prompt recourse to the knife it is femoral hernia. The anatomical conditions under which it occurs sufficiently explain this fact.

Case I.—Martha Kelly, a thin delicate woman, about forty-eight years of age, and the mother of seven children, was admitted to hospital under my care on the morning of the 26th October, 1866, shortly after midnight, with strangulated femoral hernia of the left side. The patient told that for the last twenty years she has suffered from her malady, and that it made its appearance in consequence of her lifting a heavy weight just before her confinement. Something, she said, "gave way with a crack," and just as her child was being born she felt a similar sensation; and when she got out of bed afterwards a lump suddenly appeared. The woman states also that an abscess, which required to be opened, formed in the same situation. She had worn a truss, but the swelling often came down. There was no great difficulty at any time in returning the parts to the abdomen—into which led, the patient states, a large opening—until the 24th inst, at 11 p.m., whilst at stool the hernia came down, and the woman could by no effort of her own return it. A medical man was sent for the next day. He tried the taxis, prescribed castor oil, and the application of ice, without success. The castor oil was followed by two evacuations from the bowels, but the swelling remained as before. The taxis was then a second time tried without avail, and the patient recommended to go to hospital. My colleague Dr. Murney was present when she was admitted, and he made an effort at taxis whilst the patient was in a warm bath, but without making any change in the tumour; and as the symptoms did not appear very urgent advised an opiate and rest in bed, until I should pay my visit in the morning.

At ten o'clock, when I first saw the case, I found the patient had slept but little, her face wore a sunken, anxious look, tongue much furred, pulse 100, and weak. She had vomited three times some bilious matter. A good deal of pain was felt both in the tumour and abdomen, and the neck of the sac was very sensitive. On examining the left groin I found an oval tumour, the bulk of half a lemon, situated transversely beneath Poupart's ligament. The swelling was not tense, was nodulated, and had the feeling of containing omentum, except at one point, where there seemed to be intestine.

After a consultation, at the suggestion of Professor Gordon, an enema was given, which brought away much flatus, and the ice was reapplied. In the afternoon the patient's condition was not at all improved, and therefore I considered it expedient to operate without further delay, as strangulation had now subsisted about forty hours.

The patient having been first put under chloroform the taxis was tried, but I failed to produce the slightest effect on the bulk of the swelling.

An incision was therefore immediately made, about two and a-half inches long, in the vertical axis of the tumour, but rather to the inner side. The fascial layers were divided in the usual manner, and the sac exposed. On opening this a small quantity of serum flowed away and omentum was seen. The sac was then more freely opened, and on introducing the finger a very tight stricture was felt at the crural ring, beneath which the finger nail was insinuated with trouble. The constriction was divided with the greatest care, and with much difficulty, cutting upwards and inwards, at the junction of Poupart's and Gimbernat's ligaments. The protrusion, however, could not be returned, and on seeking for the cause it was found that the omentum was attached by old adhesions to the posterior part of the sac. These were separated with care, and another attempt made to return the parts, which proved unsuccessful, until Poupart's ligament was partially divided, the edge of the knife being directed upwards. Three sutures were inserted in the wound, a pad and spica bandage applied, and the patient removed to a warm bed, when a large opiate was administered.

That evening the patient was restless and uncomfortable. She was ordered a grain of opium and a grain of calomel every fourth hour.

The next morning I found she had slept well, and felt easy; pulse 120. She is to have chicken soup, and the pills at longer intervals.

On the fourth day, the 29th, the pulse was 110; bowels had been freely open the night before with great comfort to the patient. She had slept well, and had eaten an egg for breakfast. On dressing the wound it was found to have healed throughout by immediate union. The patient became rapidly convalescent. She was slightly salivated, having, however, taken in all five pills, each containing only one grain of calomel. The inferior angle of the wound subsequently reopened at one point to discharge a few drops of pus, but otherwise the wound thoroughly and immediately healed. She was discharged from hospital in fair health, better than she had enjoyed for many years, and wearing a light truss.

Case II. differs from the last case considerably. The notes from which I have extracted the following account were very fully and accurately taken by Mr. Price, one of my clinical clerks. The patient was much older-looking than her real age—sixty years. She was the mother of seven children, and had evidently suffered many hardships. The hernia was of recent date, and was very small. She first noticed a lump in her groin about a month ago, when she had an attack of cramps and vomiting. Since this attack she has but seldom got out of bed, as she suffered much from nausea and constipation, with weakness and loss of appetite. The lump sometimes was felt, and sometimes not, in the groin—probably the patient did not know the importance of the local ailment.

On the 11th February, 1868, at eleven o'clock in the morning, she suddenly took ill with severe cramps in the belly, and vomiting, not being able to retain either food or drink. A medical man was sent for some time after, who employed the taxis without avail, and then she was sent to hospital, where she was admitted under my care at nine a.m., on the 14th. I saw her a few minutes after, and found her in an extremely weak condition, surface cold, face anxious, skin yellow, voice tremulous and feeble, pulse 120 and thready, tongue much coated. Since the first appearance of the symptoms she has vomited almost continuously, even on drinking cold water, and there has been no action of the bowels. In the right groin there is a little hard lump, not much larger than a cob-nut, just beneath Poupart's ligament. Great pain was felt in the part, and also at the umbilicus.

The case appeared to be one that would brook no delay. The tumour was very tense and small, the symptoms were very urgent, and strangulation had subsisted seventy hours. The woman was at once removed to the operating theatre and chloroform administered. No attempt at taxis was thought expedient, and herniotomy directly proceeded with. A vertical incision, commencing just over Poupart's ligament was made, some fascial layers divided on the director, and a lobule of fat about as large as a hazel-nut exposed. This resembled extremely a piece of omentum, and caused much embarrassment in the course of the operation. By careful isolation of the neck of the tumour this fat was shown to be external to the sac, being contained in the fascia propria. The falciform border being exposed it was divided, cutting directly upwards, and an effort made to return the hernia without opening the sac. In this we entirely failed, and it became necessary to open the sac. This was accomplished with great care and some difficulty. A few drops of dark red serum flowed, and a very small bit of intestine, almost black in colour, and completely adherent to the sac by recent lymphy adhesions, was laid bare. The adhesions were cautiously broken through with the finger and the handle of the scalpel. The director was then introduced beneath Poupart's ligament, as the finger or even the nail could not be inserted, and the stricture freed by simply pressing the knife against its edge in a vertical direction. The intestine now receded of its own accord, the thickened sac was cut away, the wound closed by three sutures, and dressed in the usual manner. With regard to the after-treatment, it may be simply comprised in the statement that the patient was let alone. No medicine was given of any kind. Soda water and ice were freely taken to relieve the sickness following the chloroform, and so soon as this had subsided the patient was given some nourishing soup. Next day, the 15th, the pulse had fallen to 90, and the countenance had lost its anxious expression. The abdomen was distended with flatus, but not tender, except in the region of the wound. The sickness

and vomiting had quite abated. On the 16th, the patient complaining of much uneasiness in the groin, the dressings were removed, and the wound was found united by the first intention throughout. The skin around had become inflamed, and was of a dark red colour. The sutures were removed, and the cicatrix yielded in the centre to the extent of a line's breadth, giving exit to nearly a tablespoonful of sanious pus.

Next day the patient was found to have been completely relieved. She had slept well, the tongue was cleaning at the edges, and the pulse fallen to 84. The skin was cool, all sickness had disappeared. No pain was felt in the abdomen, which was still, however, much distended with flatus.

On the 20th, the seventh day after operation, the patient's general condition is reported very satisfactory. A small quantity of rather fetid pus was daily discharged from the wound, which was syringed out with carbolic acid lotion with great advantage. The bowels had not been open since the operation, and an enema of soap and water was directed to be given. A plentiful discharge of both feces and flatus followed, to the great relief and comfort of the patient. On the 22nd February the patient was pronounced convalescent. She eats, drinks, and sleeps well. The bowels had been moved naturally, and the wound was secreting a few drops only of healthy pus. Soon after she was discharged from hospital quite cured of her hernia. She was, however, advised to wear a truss.

Case III., extremely interesting in many respects, proved a fatal one, and a *post mortem* examination was obtained. We have in this instance an illustration of the most forcible kind of the disastrous results of delay in procuring relief for a strangulated intestine, and an example given where the symptoms merely of disease were treated, and the cause of those symptoms completely overlooked. The account of the case is taken from the very faithful notes of Mr. Chambers, clinical clerk.

Mrs. G., thirty-two years of age, the mother of several children, was admitted under my care on the evening of Friday, February 28th. She had previously enjoyed an immunity from all serious illnesses, but had never been very strong. Between two and three years ago she first noticed a little lump in the left groin, which came and went at intervals, and was occasionally attended by cramps and pain. For three months the menses had disappeared, as she had again become pregnant, and during the 6th, 7th, and 8th of February she suffered from profuse hemorrhage and other symptoms of miscarriage. The bleeding from the vagina continued until within three days before admission, reducing her to a very weakly state.

On Friday, February 21st, whilst washing, and having to make considerable exertion, the lump in the groin suddenly increased in size and

became very painful, while shooting pains were felt extending from it through the abdomen. The next day she was much worse, the pain had increased in severity, and assumed a constricting character at the umbilicus. She began to vomit, and from Saturday the 22nd, at 2 p.m., all food and drink was rejected by the stomach. The bowels were constipated, not having been relieved since Friday morning. On Sunday a medical man was called in, who prescribed her a mixture for the purpose, she stated, of checking the vomiting and opening the bowels. Different mixtures were from time to time ordered, also Seidlitz powders, sinapisms, turpentine stupes, and linseed poultices, and all without affording any relief. Matters proceeded from bad to worse until Friday morning, the 28th, when the patient herself called attention to the presence of a tumour in her groin, which on examination proved to be a hernia, and the cause of the symptoms. Shortly afterwards the woman was sent to hospital.

On admission the patient presented the appearance of a person forty-five years of age. Her face was shrunken in all its features, pale, wrinkled, and very anxious, the angles of the mouth drawn down, the surface was quite cold, the extremities clammy, and the hands blue. The respirations were 25 per minute, the pulse was 120, and almost imperceptible. In short, nearly complete collapse had taken place. The intelligence was perfect. There was little or no local or general tenderness on pressure. The woman complained only of deadly sickness. The vomiting has continued without intermission since the commencement of the symptoms, and the matter ejected is now of a most offensive description, being intolerably fetid. The tumour lies below Poupart's ligament, which it slightly overlaps. Its long axis is transverse, and measures two inches and a-half, while from above downwards it is about one and three-quarter inches. There was no tension, and, as before stated, little or no tenderness evinced on pressure.

My opinion was that the taxis should not be attempted, and that an operation, although the result was hardly doubtful, should be attempted. After some chloroform had been administered an incision, nearly vertical, was made over the tumour, and after dividing several layers of fascia a dark fatty tumour, the size of a walnut, and quite smooth and glistening upon the surface, presented itself. It was extremely difficult to decide as to whether this was a mass of omentum or not. I considered, however, after a careful examination of its appearance and relations, that it was only thickened sac, and proceeded to divide it on the director. Two lines depth of tissue were cautiously divided, and the intestine became visible, completely adherent to the sac by recent lymph. No serum escaped. The adhesions readily gave way before the handle of the scalpel, when the incision into the sac had been enlarged, and a small knuckle of the intestine was exposed, almost black in hue, but it had not

lost its resilient appearance or glossy surface. The stricture was relieved by pressing Sir A. Cooper's knife against some fibrous bands felt with the finger, and dividing them almost directly upwards. The stricture was comparatively superficial and easily divided, and there was no bleeding. The intestine was readily returned. Sutures were now inserted, and the wound dressed.

The patient was then removed to bed, surrounded with warm water jars, and given ice to suck.

Next morning the report is that there had been no vomiting since the operation, but the surface was still cold. She has had a continual desire to go to stool, and feels as if she had frequent motions in the bed, no assurance persuading her to the contrary. She has been very restless, constantly tossing about, and throwing the clothes off her. She was ordered to continue the ice, to have four ounces of port wine, a few spoonfuls of soup occasionally, and in addition a grain of opium every third hour. She afterwards got more wine and opium, and in addition hot punch, combined with the warmth externally.

The next day, in spite of all that could be done, the collapsed condition increased, the pulse became slower and slower, and weaker and weaker, till it ceased to be perceptible. The surface became stone cold. The jactitation was excessive, and painful to witness. She complained of no pain, and answered questions slowly but with intelligence. Towards the last there was some muttering delirium. She finally sank some thirty-two hours after the operation. If the fatal result was not retarded, it certainly was not hastened in any way by the surgical proceeding.

A short time afterwards a *post mortem* examination was procured. The parts involved in the operation were carefully dissected and the falciform border of the fascia lata exposed. It was then seen that Hey's ligament had been divided for about two lines depth, upwards and very slightly inwards. Neither Poupart's nor Gimbernat's ligaments had been touched. The crural ring barely admitted the forefinger. On laying open the abdominal cavity the small intestine, greatly distended with gas, bulged out. The crural ring was closed by a coil of comparatively healthy gut, whilst the portion which had been strangulated was discovered removed about three inches to the right side of the opening. The whole intestine seemed injected and inflamed, but there was very little effused lymph and no serum contained in the cavity of the abdomen.

About three feet of small intestine were now carefully removed for subsequent examination. Towards the lower portion of the ileum the seat of strangulation was clearly seen. About two-thirds of the circumference of the bowel at its convexity was sacculated, a deep sulcus forming its boundary. The part appeared as if it had been tightly tied by a cord, and afterwards set free. More lymph was seen near this than elsewhere, and the included portion was quite black. There was

no sign whatever of extravasation, and in fact none had occurred. The amount of congestion and inflammation of the bowel was much more intense below this point than above it. The intestine was now opened along its mesenteric attachment. At the seat of stricture, for the greater part of its extent, there was a projecting rim caused by the constriction, but through a distance of about half an inch at two places, the mucous and muscular coats had completely ulcerated through, nothing remaining but the serous, which was quite translucent. At one point for a line's breadth the serous coat also had given way, but it must have done so during the process of removal.

In the first of these examples the hernia was of ancient date, the opening through which it came was comparatively large, and the symptoms which followed strangulation were not very acute. It was proved during the operation that there was an impossibility of effecting any good by the taxis, or of reducing the hernia, except *en masse*, without opening the sac. The patient, too, had most confidently asserted, and, as she had suffered from rupture for twenty years, it might be presumed she ought to know, that the hernial protrusion completely disappeared when she lay in bed, and that she could pass her finger up through a large sized hole into the belly. The adhesions discovered during the operation were old and required a careful and troublesome dissection to liberate the parts. It was only too after a free division of the ligamentous structures composing the crural ring that reduction could be effected without force. It requires but little consideration to arrive at the conclusion that it is better to incise the site of stricture as often and as freely as may be necessary rather than handle the intestine much, or attempt to squeeze it through an insufficiently relieved stricture. Of course, for the future strength of the abdominal wall, it is important to make the incision as limited as possible, but at worst a free incision will result in a mere infirmity, whereas much manipulation of the contents of a rupture, morbidly inflamed as they usually are, is a source of extreme risk to the patient's life.

In the second case the hernia was quite recent, and the symptoms complained of by the patient were much more urgent. I only feared that, after the length of time that had elapsed from their commencement, I might find the intestine irretrievably damaged. A few hours will, as we know, in some instances suffice to produce mortification of the gut.

In neither of the first two cases could reduction be accomplished until the division of the deeper structures was effected. In neither was the falciform border the constricting cause.

The third case forms a striking contrast to the others. It may seem almost unnecessary to dwell upon the importance, the absolute necessity in fact, of determining the presence or otherwise of hernia in cases of vomiting

and constipation. In this instance, however, the medical man was not aware during a period of six days that there was a rupture, and the woman was treated by means calculated to benefit her, perhaps, had the cause of her malady been other than what it was, but only tending to injure seriously her chances of recovery from strangulated femoral hernia. Besides, much valuable time, which is a matter of greatest importance, was lost. I would wish to add that it is not sufficient, especially with those in the humbler ranks of life, simply to inquire if there be a lump in the groin, and rest satisfied with the patient's assurance that there is none. Oftentimes persons of this class are liable to overlook, or attach little importance to, the presence of such tumours, and even if of long standing, will sometimes forget or ignore their very existence. We know, too, how far feelings of false delicacy will carry some women. Nothing save a careful examination made with one's own hands, and eyes if needful, will suffice.

The examination of the parts after death renders this case doubly interesting. The evidences of general peritonitis were distinct, but not to so large an extent as I have frequently seen them. The patient seemed rather to die from the collapse induced by the disease, and her state, weakened as it was by the recent abortion, did not offer the same amount of resistance and power of reaction.

The woman did not, I consider, die of the operation, which did not seem to affect much the progress of her case in any way, save by giving relief from the vomiting. The way in which she died appeared to me almost identical with that in a fatal case I witnessed of strangulated femoral hernia where no operation had been performed. In both instances intense restlessness and jactitation, pervading coldness, muttering delirium, from which the patient could be aroused, and comparative absence of local tenderness and pain were very noticeable.

I send round a preparation of the intestine at the strictured part; it shows very beautifully the primary yielding of the mucous and muscular coats of the bowel. The thinned layer of serous membrane still remaining could very easily have been ruptured had any great effort to reduce the tumour by the taxis been employed.

In Mrs. G.'s case the falciform border alone was incised in an upward direction, and very slightly inwards. Vidal insists that this forms the constant cause of strangulation. Dupuytren must have thought the same, for he cut upwards and outwards, while Guthrie and Velpeau cut directly upwards, when relieving the stricture.

I performed a somewhat similar operation, in every instance, by means of an almost vertical incision, inclining slightly towards the umbilicus. The stricture was incised in nearly the same direction as the external wound. By avoiding all cutting or sawing motions, and simply pressing the edge of the knife against the tense fibrous tissues no risk of injuring an important part can occur.

A circumstance pointed out by Key was very well marked in the two latter examples. In both a quantity of fat, simulating the omentum very closely, was contained in the layers of the fascia propria, and it was a very difficult matter to discover what it really was.

The more one sees of hernia, and especially of femoral hernia, the more, I think, one becomes impressed with the necessity for early operative interference. It is not the operation, but the want of operation that proves fatal. Ill directed, and too often repeated efforts at taxis, conjoined with unnecessary delay, are only too frequently the fatal elements present in hospital cases of hernia.

I opened the hernial sac in all three examples, and the condition of the contents proved that it was best to have done so. The advantages of opening the hernial sac are great and apparent, whilst any proportionate disadvantage accruing from such a course is, to me at least, by no means so plain.—*March* 6, 1868.

Dr. Hill read a paper *On a Case of Suppression of Urine complicating Pregnancy*, of which the following is an abstract:—

M. B., aged thirty-five years, mother of six healthy children, had a severe attack of some chest affection, from which she never regained her former strength. Shortly afterwards she became pregnant, and when about four months gone she experienced pain in making water, at the same time passing very little. The symptoms gradually increased in urgency, notwithstanding various methods of treatment, till the pain prevented her from sleeping, and she did not pass more than three ounces of urine in the twenty-four hours, which, however, latterly became highly concentrated. She did not complain of cough, though otherwise she presented a phthisical aspect. At seven months labour occurred, with complete relief to her urgent symptoms, but immediately phthisis became developed, and she sank twelve days after delivery. The case was adduced as one showing the remarkable power which pregnancy possesses of keeping the symptoms of phthisis in abeyance. No explanation of the pain could be offered, but Dr. Smith, who had seen the case in consultation, suggested that it might have been caused by the irritation of the bladder by the concentrated urine.—*March* 20, 1868.

TRANSACTIONS OF THE COUNTY AND CITY OF CORK MEDICAL AND SURGICAL SOCIETY.[a]

SESSION 1866-67.

Dr. Johnstone, President, in the Chair.

Specimen of Phthisical Cavity in Right Lung, with Notes. By John Wall, A.B., M.D., L.R.C.S.I.; Physician to the Cork Workhouse Hospitals.

Hugh Ward, aged thirty-one, admitted into the Cork Workhouse Hospital, September 7, 1867. History—Is of a healthy family; had been for thirteen years a soldier in the 24th Regiment; got a severe wetting at a field day in the Curragh twelve months ago, and was then admitted into the military hospital suffering from hemoptysis for the first time; health previously excellent. He remained two months in hospital, where he said he was treated for pleuritis, as he complained of a stitch in his right side.

At the expiration of that time he was discharged, apparently quite cured. Whilst going to Liverpool as a deck passenger he unfortunately got a second severe wetting, which brought on a return of the hemoptysis next day. He was transferred to the depot Hospital, where he remained a month, and was finally discharged the service.

He states that he lost much flesh since the commencement of his illness, and is latterly a good deal annoyed by night sweats.

At the beginning of his sickness the decubitus was on the left side; now it is altogether on the right.

Present symptoms (September 9).—Presents the usual hectic appearance; right side intensely dull on percussion, both anteriorly and posteriorly. Pulse 108, small and feeble; large crepitation and bronchophony distinctly audible in the right infra-clavicular region. tubular breathing, prolonged expiration and bronchophony recognizable in mammary region; dulness not so well marked posteriorly; crepitation present in supra-clavicular region; puerile respiration audible in every part of left side; well marked nummular sputa; no diarrhea; percussion sound, almost tympanitic, on left side as compared with right.

November 14.—The disease has made considerable progress since last examination.

November 16.—Died this morning.

Post mortem.—Upon removing the sternum a considerable quantity of fluid escaped from the cavity of the pleura; there was also a deposit of recent lymph on the pericardium, evidently the result of inflammation

[a] These reports are supplied by Dr. Purcell, Secretary to the Society.

immediately preceding death. The right lung was intimately adherent to the corresponding pleura costalis, from which it was detached with considerable difficulty; it had shrunk to nearly half its normal size, felt almost cartilaginous to the touch, and was everywhere coated with a thick layer of false membrane. The upper lobe contained an abscess capable of holding two ounces of purulent matter. The remainder of the lung was infiltrated with tubercle. The left lung contained some crude tubercles at its apex, and what appeared to be the cicatrix of a former abscess. The anterior portion of both lobes were emphysematous to a certain extent. The base and roots were much engorged. Some false membrane existed in the latter situation.

Specimen of Periprostatic Abscess, with Notes. By JOHN WALL, A.B., M.D., L.R.C.S.I., Physician to the Cork Workhouse Hospitals.

OWEN GEARY, aged seventy-nine, admitted into the Cork Workhouse Hospital, October 30th, 1867. He is an extremely feeble old man. I found it difficult to get a satisfactory history of his case, owing to his deafness and imperfect knowledge of English. However, I was able to ascertain that he suffered from "stillicidium urinæ" for several years, and latterly was unable to retain any urine at all. In this state I first saw him. I endeavoured to pass a catheter, but failed, with several sizes; and as he passed water freely, and there being no other symptom calling for immediate action, I contented myself with fomenting the abdomen and watching the quantity of water passed until my evening visit same day, when I discovered that urine to the extent of some pints had been voided in the meanwhile. For the next few days he progressed favourably, with the exception of a rather severe attack of rigors, the urine being all through passed freely, but highly charged with blood, and of offensive odour.

Nov. 9.—Complains to-day of difficulty in making water, the quantity passed being much smaller than usual. I also discovered some duskiness about the scrotum. I therefore passed a French catheter, corresponding to about size No. 6, with considerable difficulty, into the bladder, and secured it to the glans penis.

Nov. 10.—The duskiness has much increased in the scrotum; the parts were therefore freely incised, fomentations and poultices being subsequently applied.

Nov. 11.—Is evidently sinking fast; died same night.

Post mortem.—Bladder and penis extracted by sawing the pubic arch; the former was quite a typical example of "concentric hypertrophy," its coat being extremely thickened, the cavity so diminished as to be capable of containing only three ounces of fluid. A small diverticulum was observed posteriorly, and to the right; mucous membrane very vascular

and rugous. A small abscess, capable of holding three drachms of pus, lined by a distinct pyogenic membrane, was situated in the neck of the bladder, immediately overlapping the prostate gland. This must have evidently, to some extent, at least, occluded the corresponding portion of the urethra, which latter, together with the membranous part, appeared healthy. But the mucous membrane of the spongy portion, at its two posterior thirds, was quite blackened by extravasated blood. Upon the closest inspection I was unable to discover any rupture, although I feel quite confident that some such lesion must have taken place during life, as the scrotum had an almost sphacelated appearance for about twenty-four hours before death, the parts being entirely without sensation, the skin peeling off on the slightest touch, and emphysematous. Where the incisions were made a thin, ichorous discharge flowed, somewhat resembling the urine in colour.

An unusual Case of Supra-patellar Bursa. By H. R. Hadden, M.D., F.R.C.S.I., Clonakilty.

Thomas Bennett, aged fifty, sawyer by trade; twelve years since noticed a swelling on the top of his knee, on which he was obliged to bear a good deal in the exercise of his trade; perfectly painless until he injured it by a fall in June, 1861, when it got suddenly swollen and bluish-looking, requiring leeches to subdue the inflammation. In two years afterwards he got another fall, which was followed by a still further increase in size and tenderness, for the reduction of which a cold lotion of vinegar and water sufficed. About two months before its removal, last winter, got a third fall, after which matter gathered between *its anterior wall* and the skin. After poulticing it opened, and from the distension of the contained bursa, I suppose the opening enlarged till it presented the appearance which you may remember, as, on its removal, I sent it in, with a few rough notes, to your society. It was about the size of a large orange, and had very much the outline of the fetal head presenting through a moderately-dilated and tumid os uteri. Before its removal I perforated its walls in two places with an exploring needle, when from each opening a tiny stream of bright blood jetted out to a distance of two inches at least, and was only stopped by continued pressure. Immediately after I removed the tumour by two eliptical incisions, including all the infiltrated skin which covered it; it was easily dissected off the patella, leaving a very clear healthy surface, when I found, to my great satisfaction, that the motions of the knee were perfect and painless. When cut open I found it to contain, as you saw, a number of cellular spaces divided from one another by fibrous, cartilaginous walls, all containing effused blood in various stages of organization—no doubt the result of the successive injuries. The man is

now, nearly a year after operation, perfectly well, both legs equally useful, and working away vigorously at his trade.—*November* 27, 1867.

Cystic Sarcoma of Breast. By H. R. Hadden, Esq., M.D., F.R.C.S.I., Clonakilty, County Cork.

Jane Connell, aged sixty, married; has borne several children; youngest twenty years old. For some years has noticed the right breast heavier and somewhat larger than the left. Two years ago became more decided, but at this time it was neither painful nor tender, except on squeezing it roughly. Nine or ten months since she received a blow on it from her grandchild's head, when it increased in tenderness and size more rapidly. About April last she consulted me at the dispensary, when it had all the characters of chronic mammary tumour and none others, for which I used the ordinary treatment, with aloetics and stimulating liniment containing iodine, with attention to her general health. After some months she disappeared and escaped from my notice. At this time the tumour was certainly a little smaller, and less tender than at the commencement. About the first week in November she returned, when I found that for some months she had been using various poultices, under the advice of "old women," in order "to bring it to a head." The diseased breast had now assumed a completely different character, a large cyst, apparently multilocular, bulging forward on the anterior and outer aspect of the tumour, having a bluish colour and distinct fluctuation, and springing, as was evident on careful examination, out of the substance of the old chronic mammary tumour. It was now exceedingly tender and painful from the distension, to relieve which, and to convince her that it was not matter it contained, I tapped the cyst, and removed some ounces of the deep straw-coloured serum it contained, at the same time advising its speedy removal, as I saw her health had become decidedly impaired, her sleep being greatly disturbed, and her appetite very bad. The tapping gave her much relief, but at the end of a week she again presented herself, begging for a repetition of it, to which I yielded, again urging the operation, which I now felt was the only means of saving her life. To this she submitted on the 13th of this month (November). There was nothing particular in the mode of its performance; the eliptical incisions were made as much as possible in a line with the fibres of the pectoralis major, and then brought together; their line measured 13 inches, one end running into the axilla, the other to the sternum. In removing the tumour a few fibres of the pectoralis had to be taken; its weight before the fluid escaped was four pounds. Towards the close of the operation she had a narrow escape from death by chloroform, respiration having *suddenly* ceased; but having grasped her tongue with a hook, and drawn it forward, artificial respiration was used, when natural breathing was re-established. On the third day the whole of this extensive wound,

except about an inch in one place and half an inch in another, where the five ligatures escaped, was healed, and now at the end of fourteen days there is but a slight oozing from the axillary end of the incision. The woman is in good condition, free from all suffering, and will be ready to be discharged in a few days, thank the Lord. On cutting open the tumour by the incision you can see on its posterior surface, I found that the cavity of the cyst was spanned by a number of papillary growths which had sprung from its walls, and which, before I severed them, very much resembled the musculi papillares of the cardiac ventricles; it also contained a thick pasty material, which, on examination with the microscope, closely resembled the so-called inflammation corpuscles from softened brain, depicted in Figure 184 of Dr. Beales' book on the microscope. A section of the hard, white substance from which the cyst sprung, presented only the characters of hypertrophied mammary structure. Whether this cyst was really multi or mulocular, and whether it was developed by the obstruction of the lactiferous tubes in the areolar interspaces, or by the degeneration and absorption of the tumour, I did not make a sufficient dissection to determine, not wishing to spoil it till it was laid before the next meeting of the Cork Medical and Surgical Society.—*November* 27, 1867.

Reported by W. C. Townsend, M.D., Senior Physician to South Infirmary and General County Hospital.

During the months of September and October several cases of erysipelas attacking children came under my notice; all, with one exception, did well, but there were some remarkable features in some of them deserving consideration.

First, all the cases occurred in children between the ages of six and ten; two were of the inflammatory type, and got well on the use of alterative aperients and diaphoretics, with the local application of powdered starch, the disease running its course in ten days without any untoward symptom.

Two occurred in children, of a highly strumous diathesis, sisters, one nine, the other seven. The elder was first affected. An interval of several days took place before the second was attacked. Both required much support, and the disease in each case yielded to repeated doses of tincture of perchloride of iron. The convalescence was extremely tedious, and followed by, in one of the children, strumous abscesses in the neck and back of the ear.

The history of the fatal case was as follows:—On the evening of the 26th September I was sent for to see Master S., aged about ten. I found him in bed, suffering from erysipelatous inflammation of the forehead, nose, and upper portion of both cheeks. He was feverish, but not remarkably so; his pulse was quick; tongue coated; skin dry; but he

did not complain of his head. On inquiry I found that he had been complaining for the last two days, occasionally sitting before the kitchen fire, but it was only the evening before the local symptoms made their appearance. He was ordered stupes to the feet, an aperient at bed-time, and a mixture of citrate of potash at intervals of three or four hours. The face, nose, and forehead to be dredged with starch powder diluents.

September 29th, morning.—Spent a good night; bowels acted freely; the secretion from the kidneys high coloured, but sufficient; does not complain of his head, but rambles occasionally; the erysipelatous inflammation has extended to the scalp; tongue moist; no thirst; has taken a good deal of diluents. On feeling the pulse I observed it was, considering the other symptoms, less frequent and somewhat laboured; ordered small quantities of chicken broth; frequent mustard stupes to the feet; the hair to be removed; citrate of potash to be continued, &c. Evening.—Wanders a good deal, but knows every one; the other symptoms continue same as the morning; pulse still rather slow and laboured. I learned then for the first time that about a month previously he got a severe fall on his head, while playing on the steps of a house at the opposite side of the street, but from the effects of which he did not complain, nor was there the slightest mark or abrasion; ordered an alterative aperient, mustard stupes to be continued to be sustained as before.

September 28th, 8 a.m.—Spent a restless night; well marked stupor; but on being roused knows his mother and those about him; drinks freely, but immediately relapses into stupor; kidneys and bowels acted freely; pulse slow and laboured; pupils act; no rigors; head to be shaved; blister to the pole; turpentine enema. 12 o'clock.—Professor O'Connor saw him with me; stupor increased, but still, on being roused, is conscious, and knows his mother; ordered one grain of calomel and five of nitrate of potash every hour; blister to remain on the pole; stupes to feet to be continued; to be supported freely with broth and arrowroot. 4 p.m.—Continues in much the same state, except the stupor, which is decidedly increased; pulse slow and laboured; does not recognize any one. 8 p.m.—Professor O'Connor saw him with me again; he raves a good deal, but does not know any one except his mother; drinks badly; bowels and kidneys act well, but passes everything involuntarily; pulse still slow and laboured; pupils act well; ordered mustard sinapism over the heart; other treatment to be continued.

29th, 8.30 a.m.—He still continues in much the same state; his mother states that he recognized and called her; mutters occasionally; pulse still slow and laboured; drinks badly, and lies on either side; ordered head to be covered with straps of blister. 12 o'clock.—Sinking; died towards evening; no rigor from first to last; no *post mortem* allowed.

I frequently meet cases of erysipelas in very young children and infants, but rarely between that period and adult life. I have never seen

a case of erysipelas in a child of the same age end fatally, and with the same train of symptoms. In this case there was no metustusis, as the erysipelatous inflammation of the nose, face, and upper portion of the forehead still continued. The inflammation evidently extended to the membranes of the brain, and terminated by suffusion. A question would arise in this case as to whether the fall on the head, a month previously, from the effects of which he never complained or appeared to suffer, may have exercised any influence on the production of the attack, or its being present rendered the membranes of the brain more susceptible than ordinary of inflammation.—*January* 26, 1868.

Case of Fatty Tumour. By Francis M. Luther, M.D., Cappoquin.

November 1st, 1867.—Consulted by Mrs. Owen Keefe, of Barrack-street, as to how a very large tumour, on the back of her neck, and scapula could be removed. She had some years before consulted me for slight and transitory œdema of her legs. I saw her but twice on that occasion. When she mentioned the site of the tumour I thought it most likely to be a lipoma, but on examination I found that it was not lobulated, but, on the contrary, quite smooth and elastic to a high degree. I concluded that its contents were fluid, and not merely that, but liquid as serum, rather than glairy, like the usual contents of a cyst. Perhaps the woman's own expressed conviction, that it was full of "boiling water," contributed to mislead me, as I have known such statements to prejudice wiser men. Thinking to effect a cure by tapping and iodine injection, and having obtained Mrs. Keefe's consent, I tapped the tumour, directing my assistant, the dispensary portress, to grasp it with both hands and keep it tense. As I did so I remarked that it was more common to find fatty tumours on the neck than any other. To my intense chagrin neither serum nor blood issued through the trocar. Fancying that viscidity in the contents of the cyst might account for this, I pierced the tumour in another place with same result. Being now aware of my mistake, I made an incision into it, and yellow fat started up through it. I told the patient and bystanders that it proved to be a very innocent tumour, only formidable from its bulk, and that I would remove it on the spot. Although much alarmed, the woman permitted me to do so, as it made her life miserable. Making two incisions crossing each other, I dissected off the skin flaps, which I found very tedious. I tried occasionally to loosen the tumour with my fingers, but could not do so. The handle of my scalpel was of no use, as it was one that folded up. The lobules were tightly compressed like brain convolution, and prolongations of fascia dipped between them. The tumour was large (it weighs two pounds), and towards the end of the operation I bisected it, in order to facilitate its removal. No vessels needing ligature entered it, but the skin bled freely, owing, perhaps, to my giving the patient two or three

glasses of wine to sustain her waning courage. My assistant in drawing back the flaps with her fingers, of necessity bruised them. I ought to have directed her to use a tenaculum or forceps. The flaps were very redundant, and I was tempted to cut off a small portion which overlapped considerably. Putting them in such apposition as I could, I applied water dressing. Next day the flaps were thick, swollen, and red, the border of one presenting a livid blue line of slough, owing probably to over-manipulation. There was slight fever, and very transient delirium. Warm water dressing, and a blue pill and Seidlitz powder. Next day slough extending a little; chlorinated dressings. In a week a small slough separated, and the skin recovered its natural hue, or nearly. In a month no trace of the operation remained, except four red cicatrical lines. She told me she had been taking jalap for ten days before to remove œdema! I have not tested urine. She has no cardiac affection.—*January* 29, 1868.

INDEX

TO THE FORTY-FIFTH VOLUME.

Abdomen, morbid growths and tumours, 462.
Absorption of various substances, 161.
Acupressure, 433—of radial artery, 223.
Adams, W., on club-foot, *Rev.*, 97.
Age, as influencing mortality in parturition, 78—nubility of, 79—suitable for operations on club-foot, 98.
Agraphia, 454.
Albumen, tests for, in urine, 243—varying conditions of, in urine, 243.
Albuminuria, Dickinson on, *Rev.*, 82—see Kidney—Œdmansson on, translated by Minchin, 243—in scarlatina, cause of, 442.
Alcohol, as a cause of Bright's disease over-estimated, 86—therapeutic uses of, 128—as a cause of blindness, 370.
Amputation to be preferred to resection if there be signs of amyloid degeneration of kidney, 76—cases of primary at shoulder-joint, 432.
Amyloid degeneration of kidney in protracted suppuration, 83—selection of operation, influenced by, 85—pathology of, 86.
Anasarca, punctures in, 85.
Anatomy, various works on, *Rev.*, 110—Fergusson's lectures on progress of surgery and anatomy, *Rev.*, 374.
Aneurism, axillary, ligature of subclavian, 57—popliteal ligature of femoral, 57—herpetic eruptions as a symptom of thoracic, 66—of aorta, 216, 304—thoracic and dementia, 323—of coronary arteries, 460—caused by embolism, 460—popliteal, 484.
Ankle, resection of, 1—compound dislocation, 223.
Antimony. Papilaud on, *Rev.*, 122.
Aorta, aneurism of, 216, 304—aneurism of, as a cause of dementia.
Aphasia, 454.
Arsenic, use of internally in cancer, 94—Papilaud, on, *Rev.*, 122—therapeutic action, 127—tolerance of, 127—cigarettes of, 129.
Artery, ligature of subclavian, 57—of femoral, 57—acupressure to radial, 223.
Artizans, diseases of, 451.
Ashhurst, on injuries of spine, *Rev.*, 102.

Babington, T. H., reports of Londonderry Infirmary and Fever Hospital, 221.
Bader, on natural and morbid changes of the human eye, *Rev.*, 389.
Banks, clinical reports and observations on medical cases, 352—cardiac disease, embolism, and paralysis, 353—pleural effusion, thoracentesis, 357.
Barton, case of enchondroma of hand, 201.
Beatty, J. G., on rigid perineum, 474.
Béraud, atlas of surgical anatomy, *Rev.*, 110.
Bladder, reflex irritations of, 41—opening into in lithotomy, 375.
Blood, animal quinoidine in, 123, 165—origin of lymph corpuscles, 416.
Bone, exostoses of skull, 449.
Bones, resections of, 1.
Brain, centres of speech, 454—Turner on convolutions of, *Rev.*, 110—use of ophthalmoscope in disease of, 369.
Breast, cystic sarcoma of, 500.
Brinton, on intestinal obstruction, *Rev.* 142.
Brown, on locomotor ataxy, 480.
Burn, operations to remedy deformity from, 57, 383—two fatal cases of, 222.
Byrne, J. A, case of cephalotripsy, 477.

Cancer, clinical illustrations of, various forms of, by Pemberton, *Rev.*, 92—hereditary nature of overestimated, 94—operations for, 94—internal use of arsenic, 94—encephaloid, 95—rodent ulcer, 96—of pylorus, 219—of kidney and lung, 219—cases of, 224—injection of acetic acid, 224—encephaloid of a retained testicle, 453—of lung, 467—state of stomach in cancer of distant organs, 446.
Carbolic acid, use of, in surgery, 335.
Cephalotribe, 101, 420, 425.
Cephalotripsy, case of, 477—remarkable case of, under Dubois, 420.
Cesarean section, 424.
Chancres, infecting, and non-infecting, 457.
Children, erysipelas of, 501.
Chloroform, history, uses and modes of administration, 181—use of in operations on mouth, 291, 300.
Cholera, use of purgatives and astringents in, 126.

Chorea, Tait on, 203—during pregnancy, 210.
Churchill, address of opening of Medical Society of College of Physicians, 35.
Climate, effect of in production of Bright's disease, 86.
Clinical records, hospital notes by T. H. Babington, 221.
Clubfoot. Adams on, 97.
Collis, M. H., on æsthetic treatment of hare-lip, with a description of a new operation, 292.
Coote, on joint diseases, *Rev.*, 380.
Copaiba, effects of, in urine, 251.
Cork Medical and Surgical Society, Transactions of, 216, 497.
Craniotomy, danger of as compared with forceps, 101—proper cases for, 423.
Croly, H. G., contributions to operative surgery, 278—excision of superior and of inferior maxilla, 278.
Croup and diphtheria, 458—tracheotomy in, 458—treatment of, 431.
Cuming, case of empyema with inequality of the radial pulses and paralysis of the diaphragm, 44—contributions to the study of some thoracic diseases, 304—disease of supra-renal capsules, 483.

Daldy on disease of the right side of the heart, *Rev.*, 402.
Davis on parturition and its difficulties, *Rev.*, 100.
Delirium, cases of, 457.
Dementia, caused by thoraic aneurism, 323.
Diabetes, diet in, 168.
Diaphragm, case of paralysis of, in empyema, 44.
Diarrhea and cholera, treatment of, 126.
Dickinson on albuminuria, *Rev.*, 82.
Dietaries of Irish prisons, report on, *Rev.*, 426—in general use among the poor, 427.
Diphtheria, Hartshorne on, 132.
Dislocation complicated of ankle, 223.
Donders on rhythm of the sounds of the heart, 225.
Duncan, J. M., on fecundity, fertility, sterility, &c., *Rev.*, 74.

Ear, Toynbee and Hinton on diseases of, *Rev.*, 88—Siegler's speculum, 88—use of tuning fork in diagnosis, 89—foreign bodies and tumours in, 89—Politzer's method of inflating cavity, 90—obstruction of Eustachian tube, 90—artificial membrana tympani, 91—perforation of membrana tympani, 91—hereditary syphilis, 91—Clarke on polypus, *Rev.*, 389.
Elbow, subperiosteal resection of, 8.
Embolism, a cause of aneurism, 460—pulmonary, 463.
Empyema with inequality of radial pulses and paralysis of diaphragm, 44—with hepatic abscess, 194—drainage in, 194—thoracentesis, 357.
Enchondroma of hand, 201.
Epilepsy, mania of, 450—on certain phenomena of, 451.
Epulis, 278.
Erysipelas of children, 501.
Excision—see resection.
Exostoses of skull, 449.
Eye, Power on diseases of, *Rev.*, 112—pathology of glaucoma, 114, 372, 392—panophthalmitis, 117—case of tumour of eyeball, 348—gunshot wound, 359—Wilson's lectures on ophthalmoscope, *Rev.*, 366—embolism of arteria central retina, 369—blindness from use of tobacco and alcohol, 370—choroiditis hyperplastica, 370—condition of in fever, 371—recent works on, *Rev.*, 389—strabismus, 389—iridectomy, 393—strumous deposit in globe of, 431—Hancock's operation, 433—iridectomy, 433.

Face, plastic operation on, 364.
Fecundity, fertility, and sterility, &c., Duncan on, *Rev.*, 74.
Fergusson, lectures on progress of anatomy and surgery, *Rev.*, 376—on lithotomy and lithotrity, 378—operations on maxilla, 379.
Fetus, size and weight at birth, 76.
Fever, causes of in Liverpool, 435—condition of stomach in, 441—thermometrical observations in typhoid, 454—observations on origin of, 454—Fenwick on morbid states of, *Rev.*, 436—more prevalent when potatoes are abundant, 427—puerperal mortality from, greatest in first labours, 78—purpuric, condition of eye in, 371.
File cutters' disease, 451.
Flint, treatise on physiology, *Rev.*, 412.
Foot, A. W., on excessive sweating, 315—resection of metatarsal bones, 18—malformations of, 97.
Force, expenditure of in the body, 161.
Forceps, cases illustrating use of, 434—danger from, as compared with craniotomy, 101—use of long, 422.
Fracture, carbolic acid as a dressing for complicated, 343.

Galvanism, in intestinal obstruction, 157.
Gaols, report on dietaries of, *Rev.*, 426.
Gastrotomy, in intestinal obstruction, 153.
Glaucoma, Hancock's operation, 433—

pathology of, 114, 372, 392—treatment of, 396.
Gunshot wounds, Butcher on, 257.

Hadden, unusual case of supra-patellar bursa, 499—cystic sarcoma of breast, 500.
Halahan, on anomalies of mechanism of parturition, 475.
Hare lip, Collis on a new operation for, 292.
Hartshorne, essentials of the principles and practice of medicine, *Rev.*, 131.
Hayden, case of chronic pleuritis, tuberculois, and pulmonary embolism, 463—mitral regurgitant murmur without valve disease, 466—on multiple abscess of liver, &c., 194.
Head, contributions to surgery of, by P. G. Hewett, 449—injury of, 223.
Headland, on action of medicines, *Rev.*, 122.
Heart, Papilaud on diseases of, *Rev.*, 122.—use of arsenic and antimony in affections of, 131—Donders on rhythm of sounds, 225—mitral regurgitation not arising from organic disease, 309—mitral regurgitation of a temporary kind, 314—embolism and paralysis from, 353—Daldy on disease of the right side, *Rev.*, 402—aneurism of coronary arteries, 460—mitral regurgitant murmur without valvular disease, 466.
Hemorrhoids, use of clamp and actual cautery for, 401.
Hernia, statistics of 200 cases, 460—cases of strangulated, 462, 487.
Herpes Zoster, symptomatic value of, 66—notes on, 344.
Hildige, case of tumour of eyeball, 348.
Hill, on suppression of urine complicating pregnancy, 496.
Hinton, on diseases of ear, *Rev.*, 88.
Hirschfeld, on nervous system, *Rev.*, 110.
Hospital reports, Liverpool hospitals, *Rev.*, 430—St. George's Hospital Reports, *Rev.*, 449—catalogue of the museum of St. George's hospital, *Rev.*, 449.
Hutchinson, on injuries of spine, *Rev.*, 102.
Hysteria and chorea, 203—affections of joints in, 382.

Insanity, clinical cases of, 450—transitory, 450—thoracic aneurism as the cause of, 323.
Intestine, Brinton on obstruction of, *Rev.*, intus-susception, 149—gastrotomy in obstruction, 153—use of galvanism in obstruction of, 157.
Intus-susception, 149.
Iodum, Macnamara's history of, 179.
Iridectomy in glaucoma, 396.
Irritations, reflex in women, 40.

James, pathological sketches by, *Rev.*, 131.
Jaw, excision of, 278, 379—use of chloroform in operations on, 291, 300.
Jennings on cancer of lungs, 467.
Joint, loose cartilages in knee, 457.
Joints, see resections, 1, 381, 384—extension of in deformity, 97, 381—Coote on disease of, *Rev.*, 380—hysterical affections of, 382—primary amputation at shoulder, 432.
Jones, H. Bence, on application of chemistry and mechanism to pathology and therapeutics, *Rev.*, 159.
Jones, W. H., on management of labour in contracted pelvis, 418.

Kennedy, H., on the management of sleeplessness in the acute affections of children, 330.
Kidney, Dickinson on albuminuria, *Rev.*, 82—amyloid condition of in cases of protracted suppuration, 83—effects of climate on production of Bright's disease, 86—influence of alcohol on, overestimated, 86—pathology of amyloid degeneration, 86—symptoms and secondary affections in Bright's disease, 87—Bright's disease with cyst, 199—cancer of, 219—Œdmansson on albuminuria, translated by Minchin, 243—tubercular state of capsules, 482.
Kirkes' treatise on physiology, *Rev.*, 412.
Knee, loose cartilages in, 457—unusual supra-patellar bursa, 499—resection of, 13, 335, 384.

Labour, convulsions during, 462—anomalies of mechanism of, 475—influence of duration of, 80, 422—mortality from influenced by number of and the age of the women, 78—Davis on difficult, *Rev.*, 100—difficult, comparative merits of forceps, craniotomy, and version, 101, 422—chorea during, 210—management of in contracted pelvis, Jones on, *Rev.*, 418—induction of premature, 419—extraordinary case of difficult, 420.
Laurence on optical defects of the eye, *Rev.*, 389.
Leaping ague, 203.
Leprosy, report on, *Rev.*, 404.
Leucocytes, origin of, 416.
Lithotomy, difficult case of, 435—Fergusson on, in children, 375—compared with lithotrity, 378—Bickersteth on, 435.
Lithotrity, compared with lithotomy, 378.

Little on Bright's disease of kidney, with cyst, 199.
Liver, multiple abscess of, 194.
Locomotor ataxy, 480.
Lung, forms of pneumonia, 459—chronic pleuritis, tuberculosis, embolism, 463—cancer of, 469—case of phthisis, 497.
Lungs, use of arsenic in affections of, 129—see empyema, cancer of, 219—effusion into pleura-thoracentesis, 357.
Luther, case of fatty tumour, 503.
Lymph, origin of corpuscle, 416.

MacCormac, case of popliteal aneurism, 484—cases of strangulated hernia, 487.
M'Clintock on spontaneous elimination of uterine tumours, 20.
M'Donnel, R., observations on the treatment of stricture of the urethra by the stricture dilator, 50—case of trichinosis, 465.
Macnamara, Neligan on medicines, edited by, *Rev.*, 169.
Maconchy, reports in operative surgery by, 57, 335—ligature of subclavian and femoral arteries, 57—operation to remedy the deformity from a burn, 57—excision of knee-joint, 335—on the use of carbolic acid as a surgical dressing, 335.
Malleatio, 204.
Mamma, cystic sarcoma of, 500.
Mania, transitory, 450.
Maxilla, excision of, 278, 399—use of chloroform in operations on, 291—Hartshorne's handy book of essentials of, *Rev.*, 131—Neligan on uses and modes of administration, *Rev.*, 169—state medicine in Great Britain and Ireland, Rumsay on, *Rev.*, 191.
Medical and surgical reports, Liverpool, *Rev.*, 430.
Medical Society of Ulster, transactions of, 480.
Medicine, Headland on actions of, *Rev.*, 122.
Menstruation, reflex irritations at cessation of, 41.
Minchin, translation of a paper by Œdmansson on albuminuria, 243.
Mole, vesicular, 473.
Moore, C. F., case of vesicular mole, 473.
Moore, W., on the symptomatic value of herpes zoster, 66—on thoracic aneurism and dementia, 323.
Moore, W. D., photograph of, 448—translation of paper by Donders on rhythm of the sounds of the heart, 225.
Mortality, of parturition influenced by number of pregnancy and age, 78—influence of protracted parturition on, 80.
Mouth, use of chloroform in operations on, 291.
Museum, catalogue of St. George's Hospital, *Rev.*, 449.

Nausea, reflex, 91.
Nephritis, see kidney.
Nerves, anatomy of, by Hirschfeld, *Rev.*, 110.
Norton on osteology, *Rev.*, 110.
Nose, naso-pharyngial polypi, 458.
Nubility, age of, 79.

Obstetrical Society of Dublin, proceedings of, 202, 473.
Œdmansson on albuminuria, translated by Minchin, 243.
Ophthalmoscope, Wilson on theory and practice of, *Rev.*, 366—use of, in diseases of the brain, 369.
Opium, therapeutic action of, 128.
Orbit, gunshot wound of, 359—plastic operations on, 364.
Orthopedics, Prince on, *Rev.*, 97.
Osteology, Norton on, *Rev.*, 110.
Ovary, reflex irritation of, 41.
Oxidation, laws of in the body, 160.
Ozone, effects of, 160.

Pancreas, office of, 445.
Panophthalmitis, pathology, and symptoms of, 117.
Papilaud, études sur les médications arsenical et antimoniale et sur les maladies du cœur, *Rev.*, 122.
Paralysis, cases of, with clinical observations, 430—locomotor ataxy, 480.
Parturition—see labour.
Pathology, Bence Jones on application of chemistry and mechanics to, *Rev.*, 159.
Pathological Society, transactions, 463—proceedings of, 199.
Pelvis, management of labour in contracted, 418.
Pemberton, clinical illustrations of various forms of cancer, *Rev.*, 92.
Pemphigus, notes on, 344.
Periosteum, management of in resections, 1.
Perineum, operation for rigidity, 474.
Phthisis, case of, 497—use of arsenic in, 129.
Photographs of eminent medical men, 448.
Physicians, address at opening of the Medical Society of, 35—Transactions of Medical Society of, 194.
Physiology, treatises on, by Flint and Kirkes, *Rev.*, 412.
Pleuritis, chronic, with tuberculosis, 463.
Pneumonia, forms of, 459.
Polypi, naso-pharyngial, 458.
Power, on diseases of eye, *Rev.*, 112.

Pregnancy, duration of, 81—chorea during, 210.
Pregnancy, suppression of urine in, 496.
Prince, on orthopedics, *Rev.*, 97.
Prisons, report on dietaries of Irish, *Rev.*, 426.
Prostate, abscess, 498.
Pruritus, reflex, 41.
Purdon, H. S., notes on pemphigus, herpes, and urticaria, 344.

Quain, elements of anatomy, *Rev.*, 110.
Quinine, as a constituent of the blood, 123, 165.
Quinoidine, discovery of, 165.

Rectum, Smith on surgery of, *Rev.*, 400.
Resections, of joints and bones, W. Stokes, jun., on, 1—not to be performed if there are signs of amyloid degeneration of kidney, 86—of spine, 102—of maxilla, 278, 379—of knee, 13, 335, 384—Coote on, 381.
Rheumatism, relation with chorea, 207.
Rumsey, on state of medicine in Great Britain and Ireland, *Rev.*, 191.

Sanderson, hand-book of sphygmograph, *Rev.*, 138.
Sanitary reform, Stewart and Jenkins on, *Rev.*, 372—sanitary matters in Paris, 388.
Scarlatina, condition of stomach in, 442—albuminurea in, 442—treatment of nephritis after, 84.
Scelotyrbe, 204.
Sciatica, reflex, 41.
Shoulder, primary amputation at, 432.
Simms, a winter in Paris, *Rev.*, 388.
Skin, notes on herpes, pemphigus, and urticaria, 344—on excessive sweating, 315—report on leprosy, *Rev.*, 404—on classification of diseases of, 459.
Skull, exostoses of, 449.
Sleeplessness, management of in the acute affections of children, 330.
Smith, H., on surgery of rectum, *Rev.*, 400.
Speculum, Siegler's for ear, 88.
Speedy on ruptured uterus, 215.
Speech, loss of, 454—location of nervous centre of, 454.
Sphygmograph, Sanderson's hand-book, *Rev.*, 138.
Spine, Ashhurst and Hutchinson on injuries of, *Rev.*, 102—cases of injury of, 223.
Splint, Watson for after-treatment of excision of knee, 384.
Sterility, &c., Duncan on, *Rev.*, 74.
Stokes, Dr., on ulcer of stomach, opening coronary arteries, cicatrices of ulcers, 201.
Stokes, W., jun., contributions to practical surgery, 1, 359—on the resection of joints and bones, 1—on gunshot wounds, 359—plastic operation on face, 364.
Stomach, chronic ulcer of opening coronary artery, cicatrices, 301—cancer of pylorus, 217—influence of in vomiting, 413—Fenwick on morbid states of, *Rev.*, 436—auscultation percussion, 437—*post mortem* solution, 438—acute gastrites, 440—gout of, 440—condition of in fevers, 441.
Stricture of urethra, treatment of by the stricture dilator, 50—diagnosis of, 53.
Students, Wright on medical, *Rev.*, 387.
Suppuration, amyloid condition of kidney in cases of protracted, 83—use of carbolic acid in, 341.
Surgery, contributions to practical, by W. Stokes, jun., 1, 359—reports in operative, from county Down Infirmary, by J. K. Maconchy, 57, 335—reports on operative, by R. G. Butcher, 257—contributions to operative, by H. G. Croly, 278—use of carbolic acid in, 335—plastic operation on orbit, 359—plastic operation on face, 364—Fergusson's lectures on progress of, &c., *Rev.*, 374.
Syphilis, hereditary affecting ear, 91—infecting and non-infecting chancres, 457.
Sweating, on excessive, by A. W. Foot, 315.

Tait on fractures of thigh, 70—on chorea, 203.
Teeth, mechanical treatment of irregularities, 435.
Testicle, encephaloid of a retained, 453.
Therapeutics, Bence Jones on applications of chemistry and mechanics to, *Rev.*, 159.
Thoracentesis, 357.
Tobacco, blindness caused by use of, 370.
Todd and Bowman, new edition of work on anatomy, *Rev.*, 110.
Townsend, on erysipelas of children, 501.
Townsend, E. R., jun., on cancer of kidneys and lung, 219.
Townsend, W. C., on aneurism of aorta, 216—cancer of pylorus, 217.
Toynbee on diseases of ear, *Rev.*, 88—death of, 92.
Trachea, injuries of, 430.
Trichinosis, 465.
Tumour, fatty, 503—spontaneous elimination of uterine, 20—myeloid of superior maxilla, 278.
Turner on convolutions of cerebrum, *Rev.*, 110.
Twins, statistics of, 76.

Ulster Medical Society, transactions of, 480.
Urethra, treatment of stricture of by the stricture dilator, 50—diagnosis of, 53.
Urine, examination for albumen, 243—deposit caused in by copaiba, 257—suppression of in pregnancy, 496.
Urticaria, notes on, 344.
Uterus, spontaneous elimination of tumour of, 20—reflex irritations from, 41—rupture of, 215.

Vaginitis, reflex irritations from, 42.
Version in difficult labour, 101, 422.
Vomiting, reflex, 41 — explanation of stercoraceous, 144—mechanism of, 414.

Wall, specimen of phthisical cavity of lung, &c., 497—periprostatic abscess, 498.
Watson on excision of knee, *Rev.*, 384.
Wilson, lectures on the theory and practice of the ophthalmoscope, *Rev.*, 366.
Wounds, Butcher on gunshot, 257—carbolic acid as a dressing for, 341—W. Stokes on gunshot, 359.
Wright on medical students of the period, *Rev.*, 387.